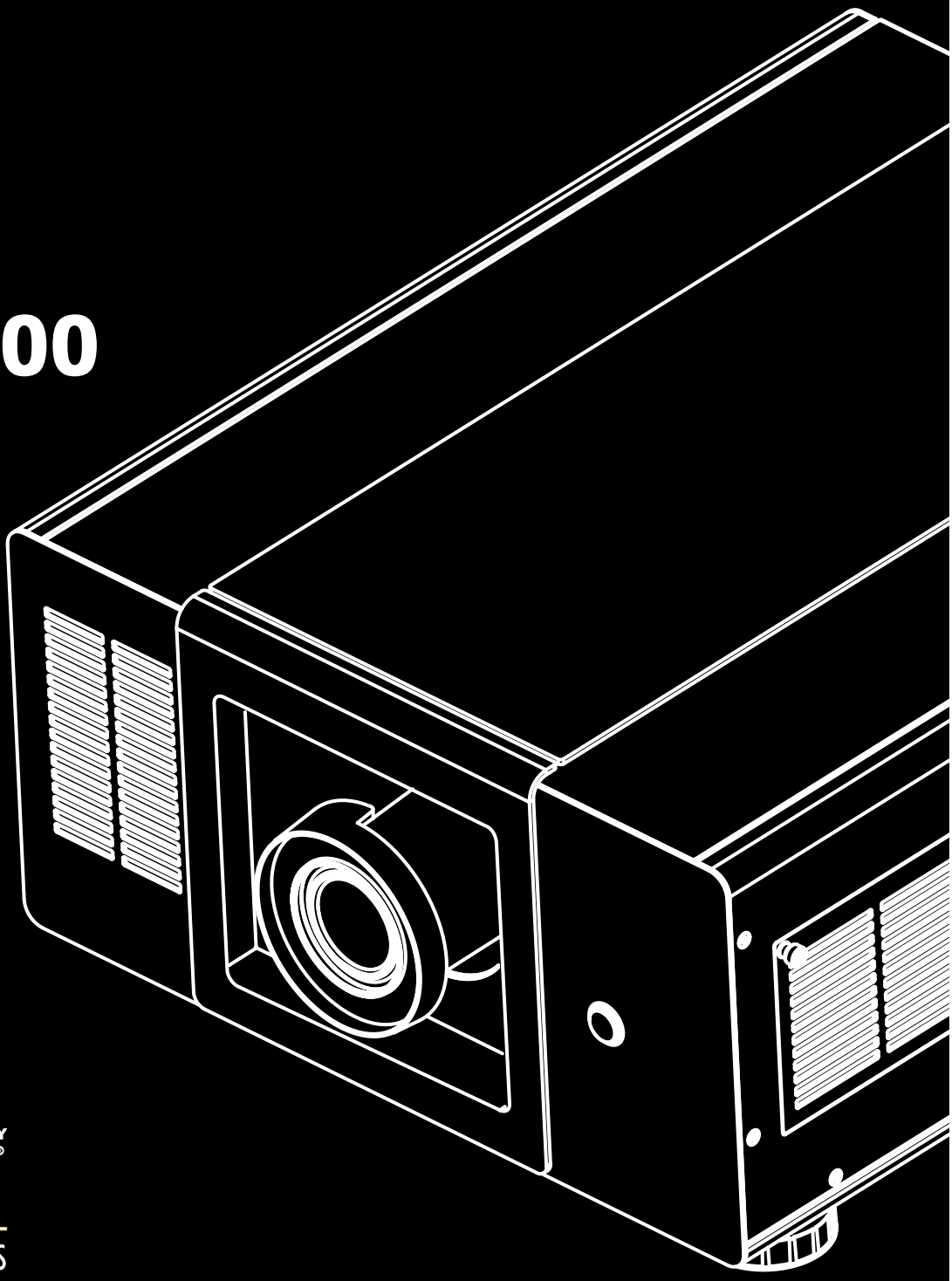
vivitek®

Vivid Color, Vivid Life

DU9000



PICTURE BY DLP®

TEXAS INSTRUMENTS

Index

Safety Notice 4

Copyright 4
Disclaimer 4
About the Manual 4
Disposal of Old Electrical and Electronic Equipment 4
Important Recycling Instructions 4
Important Safety Guidelines 5
Installation and Use Notice 5
Introduction 6
Product Features 6
Packing Checklist 7
Projector Overview 7

General 8

I/O Panel 8
Keypad and LED 9
Keypad 9
Indicator LED 9
Remote Control 10
Installation of the Remote Control Battery 11
Remote Control Operating Range 11

Precautions For Installation 12

Projector Installation and Setup 12
Cautions on Ventilation 13
Lens Shift 14
Vertical and Horizontal Lens Shift 14
Connecting the Projector to Source Devices 15
Connecting to a Computer 15
Connecting to Video Equipment 15
Connecting to Control Equipment 15
HDBaseT/LAN (Network Control) 15
RS-232 (RS-232c Control) 15
Wired Remote Control 15
3D Sync 15
Connecting to the Screen Trigger 16
Connecting to the External HDBaseT Transmitter 16

Before Using the Projector 17

Remove Dust Cover Before Turning on Power 17
Connecting to AC Power 17
AC Outlet 18
Turn On 19
Changing the OSD Language 19
Adjusting the Projection Mode 20
- Front Table 20
- Rear Table 20
- Front Ceiling 20
- Rear Ceiling 20
- Rear Tabletop 20

Lens Adjustment 20
- Vertical Lens Shift 20
- Horizontal Lens Shift 20
- Zoom In/Out 20
- Focus 20

Start Using the Projector-Operation 21

- Select the Input Source 21
- Select the Aspect Ratio 21
- Use OSD (OnScreen Display) 21

OSD Menu Tree 21
OSD Menu - Main Selection 25
OSD Menu - MAIN 25
- Aspect Ratio 26
- Preset 27
- Input Selection 27
- 3D Control 27

OSD Menu - IMAGE 29
- Picture Model 29
- Brightness 29
- Contrast 29
- Saturation 29
- Sharpness 29
- Hue 29
- Noise Reduction 29

OSD Menu - ADVANCED IMAGE 30
- Color Space 30
- Gamma 30
- Color Temperature 30
- Dynamic Black 30
- Adaptive Contrast 30
- HSG 31

OSD Menu - LAMP 31
- Lamp Mode 31
- Power 32
- Lamp Select 32
- High Altitude 32
- Lamp 1/2 Status 32
- Lamp 1/2 Run Time 32

OSD Menu - ALIGNMENT 32
- Lens Control 33
- Center Lens 33
- Warp 33
- Blanking 34
- Edge Blend 35
- Test Pattern 35

OSD Menu - Control 36
- Language 36
- OSD Setting 36
- Blank Screen 36
- Projection Mode 36
- Auto Power Off 37
- Auto Power On 37
- Startup Splash 37
- Trigger 1 & 2 37
- Auto Source 37
- Infrared Remote 37
- Network 37

OSD Menu - Service 38

Maintenance 39

Replacing the Lamps 39
- How to Replace the Projector Lamp 39

Installing or Removing the Projection Lens 40
- Remove Lens 40
- Install Lens 40

Replacing the Filter 41

Outline Dimensions 42

Supported Signal Input Timing 43

3D Signal Input Mode & Timing 44

Serial Interface RS-232 Command 45
- Communication Parameter Setup 45
- Operation Commands 45
- List of Operation Commands 46
- Simulated IR Remote Controller Commands 52

Control the Projector Through a Network 53

Cable Connection 53
- Connect the Projector to a PC 53
- Connect with an External Integrated Video and Control Signal Transmission Box 53

Set Up the Projector for Networking 54

Control the Projector Through a Network 55
- Control the Projector Through a Web Browser 55
- Control Projector with the PJLink Protocol 58
- Control Projector with TCP/IP Communication Protocol 58

Specificatons and Support 59

Specifications 59
Vivitek Support 60

Safety Notice

Copyright

The User's Manual (including all pictures, illustrations and software) is protected by the international copyright right law. All rights are reserved.

No duplication of the manual or any content included in the manual is allowed without the written consent of the manufacturer.

©2014 Vivitek. Vivitek is a trademark of Delta Electronics, Inc. Other trademarks are the properties of their respective owners.

Disclaimer

The information in the manual is subject to change without notice.
The manufacturer does not provide any statement or warranty of the contents in the manual and clearly give up the implied warranties of merchantability and of fitness for a particular purpose. The manufacturer reserves the rights to modify the publication and change the contents of the materials at any time without notice to any person.

About the Manual

The manual describes how to install and use the DLP projector and is applicable to the end-user. Relevant information (such as illustrations and descriptions) is put on the same page as possible. The format, easy for printing, is convenient for reading and paper-saving which is beneficial to environmental protection. The manual format has been designed for ease of reading while respecting environmental and paper conservation.

Disposal of Old Electrical and Electronic Equipment

The symbol on your product or the package represents that the product should not be treated as the usual household waste when discarded but should be carried to the recycling location of the waste electric and electronic equipment.The consequence on the environment and human health due to the incorrect disposal of the product can be prevented when the product is properly discarded. Material recycling is helpful to the protection of natural resources.The symbol is only valid in European Union.If you want to discard electrical and electronic equipment, contact local authorities or dealer for the correct method of disposal.

Important Recycling Instructions

The lamp of the product contains mercury. The product may contain other electronic wastes and may pose risk if not discarded properly. Abide by the local, state/provincial or federal laws of recycling or discarding.
For more information, please visit the website and contact Electronic Industries Alliance (EIA) at WWW.EIAE.ORG

Please visit WWW.LAMPRECYCLE.ORG for the specific disposal information of lamps.

Important Safety Guidelines

Thank you for purchasing this high quality product!
Read the Manual carefully in order to obtain the best performance from your projector, please read the manual completely.

Installation and Use Notice

1. Please read and keep the manual available for future reference.
2. Pay attention to all warnings.
3. Follow all guidelines and recommendations.
4. Do not put the equipment near water. Do not install the equipment near a heating duct thermal source, such as heater, radiator, furnace or other equipment that will generate heat.
5. Use dry fabric to clean only.
6. Do not obstruct any vents. Carry out installation according to the guidelines of the Manufacturer.
7. Do not destroy the safety protection function of polarized or grounding plugs. A polarized plug has one wide and one narrow blade. A grounded plug has two blades and a third grounding prong. The wide blade or grounding blade is provided for the safety concerns. If the plug provided does not match the outlet, contact an electrician to replace the outlet.
8. Prevent the power cord from being compressed or pinched, especially the power cord on the plug, outlet and the connection between the power cord and the equipment.
9. Only use the connectors/accessories designated by the Manufacturer.
10. Be careful when moving the trolley/equipment and avoid injury due to turning-over when using the trolley.
11. Unplug the power cord of the equipment if there is a thunderstorm or the equipment will not be used for a long time.
12. Ensure only Authorized Service personnel perform any necessary repairs or maintenance. Failure to do so, will void warranties. The packaging materials should be kept properly for future use and transportation.
13. Do not look straight at the lens when the projector is running.
14. The product can be used safely below a elevation of 3000 meters. There may be safety risk if the product is used above a elevation of 3000 meters.

Introduction

The User's Manual describes the installation, setup and operation of the DU9000 projector and provides assistance to the installers and end users to fully ensure the performance of the projector.
Vivitek has made every effort to ensure that the information in this Manual is correct at the time of printing. The contents may be updated due to product enhancements, customer feedback or improvements. You can find the latest version of the Manual and the manual of other Vivitek products at www.vivitekcorp.com.

Product Features

The Vivitek DU9000 features advanced technology and industry leading optical design to provide a crisp, high resolution bright, crisp and vivid image.

Main Characteristics and Advantages of the Product Series:

- The DLP system with the high performance digital micro mirror device (DMD) in conjunction with advanced thermal management technology provides the excellent projecting performance and reliability.
- The advanced dual-lamp optical engine as well as single-lamp, dual-lamp, normal, energy-saving and Custom Lamp Power mode offer flexible installation together with energy and cost savings. The lamp power can be adjusted in the normal and energy-saving modes to make it easier for the installation personnel to fine-tune the edge blending brightness of multiple projectors.
- With the lamp switching feature, the projector can automatically select the lamps less used when turned on.
- The projector has the replaceable color wheel and smart color wheel switch design. It can automatically detect and switch the parameter of corresponding color wheels and can be used in conjunction with the color wheel of high brightness or beautiful hues. It is applicable to the single projector.
- The interchangeable lens design allows users change the suitable lens by pressing the Lens Release key easily and quickly.
- With the complete series of motorized projection lenses, the horizontal shift, focusing and zooming of lenses can be electrically controlled. The throw ratio ranges from 0.84:1 to 4.0:1 is suitable to be used in most applications.
- The mechanical shutter is built in the optical engine and allows the user to Blank/Freeze projection by pressing a single key.
- The high performance video processor can be used in progressive and interlaced scanning of the video inputs and video diagnosing.
- The complete input terminal support many input signals, such as HDMI, 3G/HD/SD SDI, HDBaseT, Component and VGA, etc.
- With the built-in HDBaseT signal reception, HDBaseT transmitter can send high quality video and control signals through the single RJ45 cable.
- Many 3D display formats is supported, such as Top/Bottom, Side by Side and Frame Packing.
- The synchronization of DLP Link and 3D IR is supported with 3D Sync connector.
- With the high efficient power switch, the power consumption is less than 5W on stand-by mode.

Packing Checklist

The following items are included in the DU9000 packaging. If any item is missing or damaged, please contact your dealer or Vivitek customer service center.

1. Power Cord (USA, Europe,China) *3
2. Remote *1
3. Battery (AAA) *2
4. User's Manual CD *1
5. Warranty Card (For China Only) *1
6. HDMI Cable *1
7. RHS Card (For China Only) *1

Projector Overview

Vent

Heat is discharged from the projector via the vent. Make sure the vent is not blocked.

Intake/Filter Cover

The internal fan pulls cool air into the projector via the intake.

Adjustable Supporting Stand

When the projector is installed on a desk, these stands can be used to adjust the levelness of the projection angle.

Power Socket

The power from the outlet on the wall is directed to the projector.

Power Switch

The switch is used to turn on or off AC power of the projector.

LED Indicator and Keypad

Use the buttons to select and adjust the settings of the projector or shows the status of the projector.

Lens Release Button

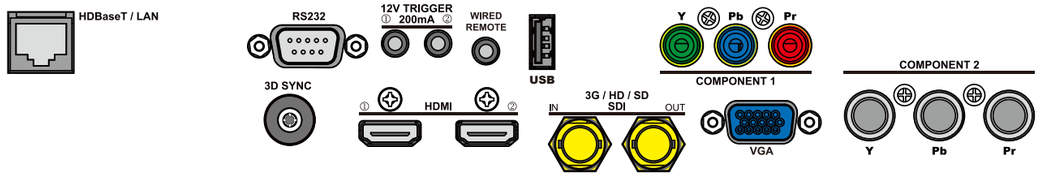
Push the Lens Release button to change the selected projector lens.

IR Window

The signal from the remote control can be received via the window.

General

I/O Panel



HDBaseT/LAN
Connect to the RJ45 Cat5 Ethernet cable.

3D Sync Out
Connect to the 3D IR synchronization signal transmitter.

HDMI
Connect to HDMI source.

3G/HD/SD SDI
Connect to SDI source.

VGA
Provide the standard 15-pin VGA connection and can connect to RGB, HD Component or personal computer.

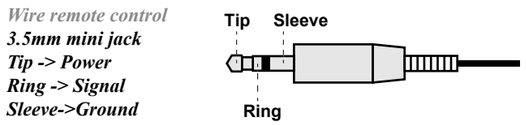
Component / Y/Pb/Rr
Connect BNC-type input terminal to the RGB or YPbPr/YCbCr output signal of video equipment.

RS-232
The 9-pin D-sub interface is used to connect to the PC control system and projector maintenance.

TRIGGER (Trigger)
The 3.5mm mini earphone jack provides 12V (+/-1.5) / 200mA Auto output for screen control.

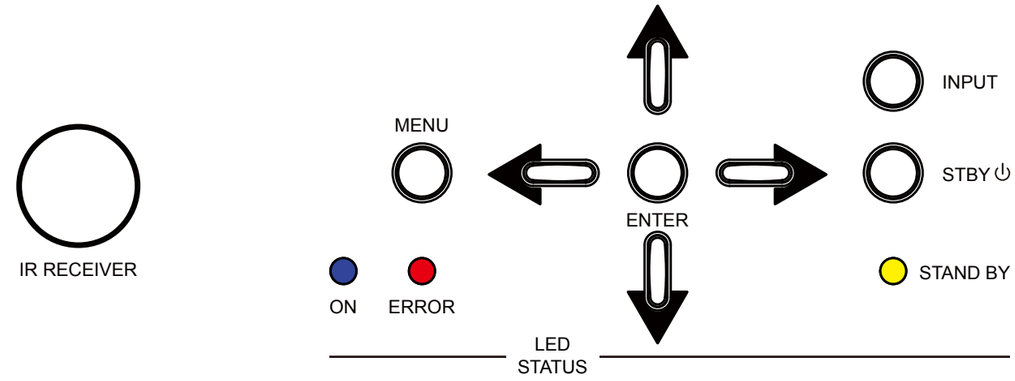
USB
It is a port exclusively used for maintenance and only can be used by the authorized maintenance personnel.

WIRE (Wired Remote Control)
Connect to the input from the compatible IR transponder system and wired remote control.



Note: Please make sure the port for insertion is correct before the terminal of the wired remote control is inserted. The remote control may be damaged if it's inserted to the wrong port.

Keypad and LED



Keypad

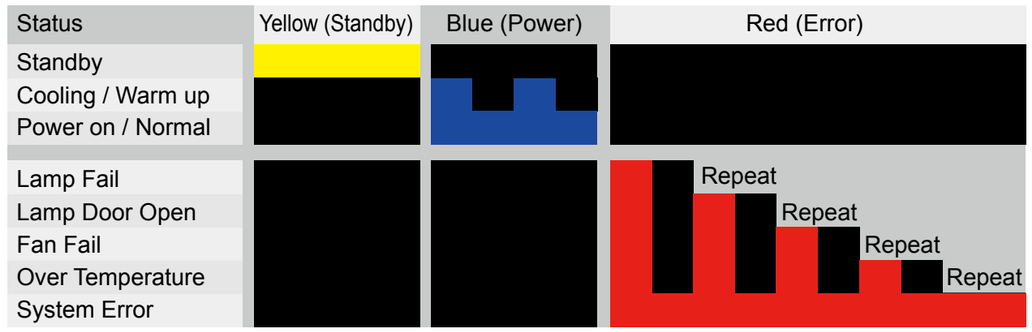
STBY
Use STBY button to turn on/off the projector.

INPUT
Push INPUT button to select the video source. HDMI, SDI, VGA, Component / BNC or HDBaseT.

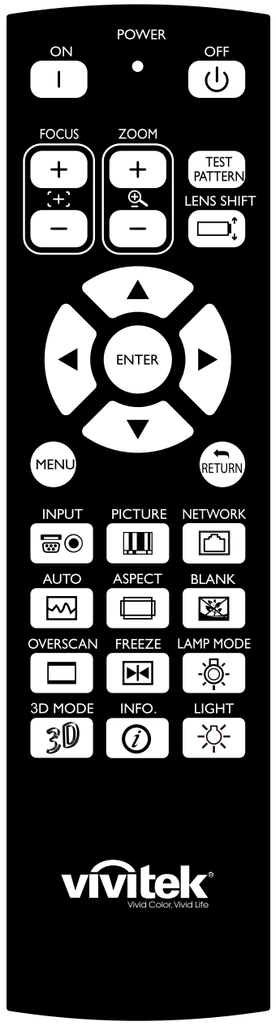
MENU
Push MENU button to display or hide the OSD menu.

ENTER
Use ENTER button to select settings or confirm the changed settings. Also push this button to enter and return to the OSD menu.

Indicator LED



Remote Control



ON
Use this button to turn on the projector.

OFF
Use this button to turn off the projector.

FOCUS
Adjust the focus of the projected images.

ZOOM
Zoom in/out the projected images.

TEST PATTERN
Use this button to display the test image. Press to switch to the next test image and press the RETURN button to return to the projected image.

LENS SHIFT
Use this button to shift the lens to the right, left, top or down.

ENTER
Use this button to select settings or confirm the changed settings.

MENU
Press the button to display or hide the previous level or OSD menu.

Return
Press this button to return to the menu on the exit the OSD menu.

INPUT
Press this button to select the input source.

PICTURE
Start to adjust the image.

NETWORK
Press this button to enter the LAN menu.

AUTO SYNC
Press this button to carry out automatic signal synchronization.

ASPECT
Press this button repeatedly to select the proportion for the next screen.

BLANK
Press this button to temporarily interrupt the projection.

OVERSCAN
Press this button to select the overscan mode.

FREEZE
Freeze/unfreeze the projected image.

LAMP MODE
Press this button to select dual lamp, Lamp 1 Lamp 2 or Single.

3D MODE
Display the 3D settings menu.

INFO.
Display the Projector message.

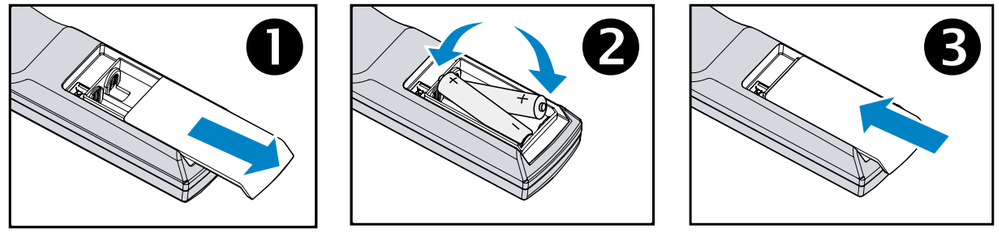
LIGHT
Not available for this model.

Remote Control Instructions
Reflection may be affected by the environment under some circumstances. Aim the remote control at the project to try again if it happens. Replace batteries with new ones if the effective distance of the remote control is decreased or the remote control does not work.

When the terminal of the remote control cable is inserted to the wired control terminal of the projector, the projector will automatically switch to the wired control mode and cannot be controlled through the IR signal of the remote control. Disconnect the wired control terminal on the projector if you want to control through the IR signal of the remote control.

Pay attention to the installation environment because the signal may not work due to interference if the IR remote sensor is exposed to the bright sunlight or fluorescence.

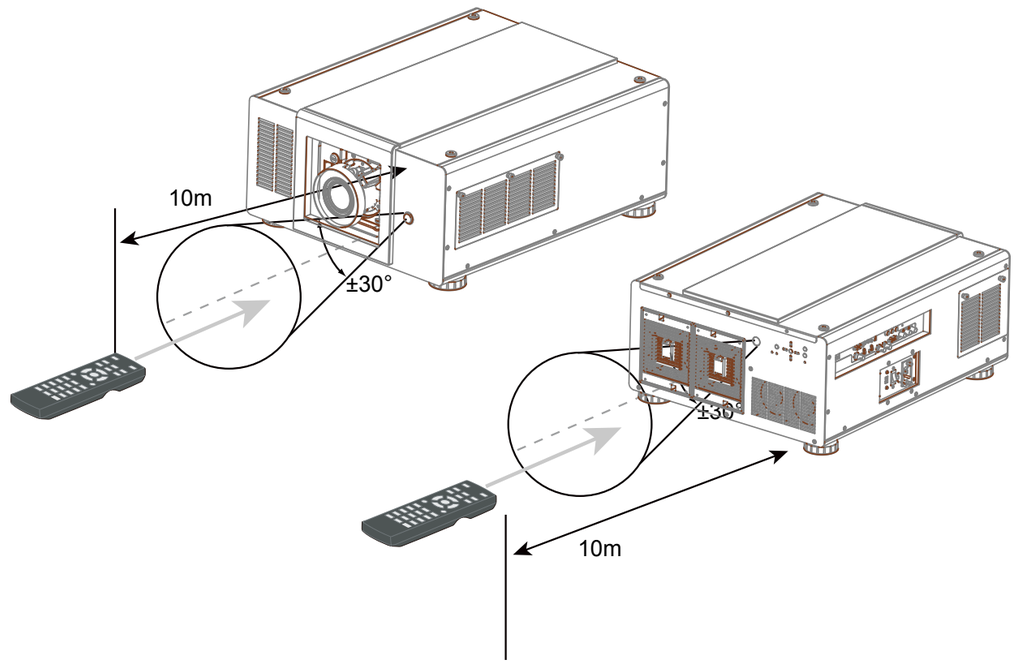
Installation of the Remote Control Battery



1. Slide the battery cover in the direction of the arrow.
2. Place two AA batteries with the correct polarity.
3. Slide the cover back.

Battery installation instructions
• Make sure that batteries are installed with the correct polarity.
• Do not use old and new batteries or mix different types of batteries together.
• Remove the batteries if the remote control will not be used for a long time to prevent. The damage caused by battery leakage.

Remote Control Operating Range



Note: Avoid exposing the remote control to a high temperature or humidity environment; otherwise, it could cause the remote control to malfunction.

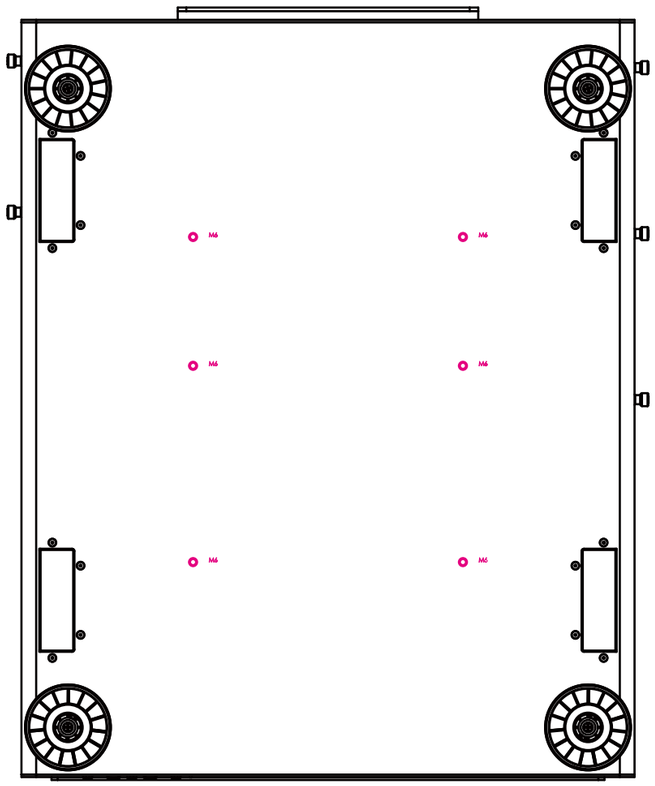
Precautions For Installation

The high quality display effect can be guaranteed only when the projector is correctly installed. Generally, the light source facing the screen should be reduced or eliminated as much as possible. The contrast of images will be obviously reduced if the light such as the beam from glass window or searchlight directly shines on the screen. Images may appear faded and less vibrant.

Projector Installation and Setup

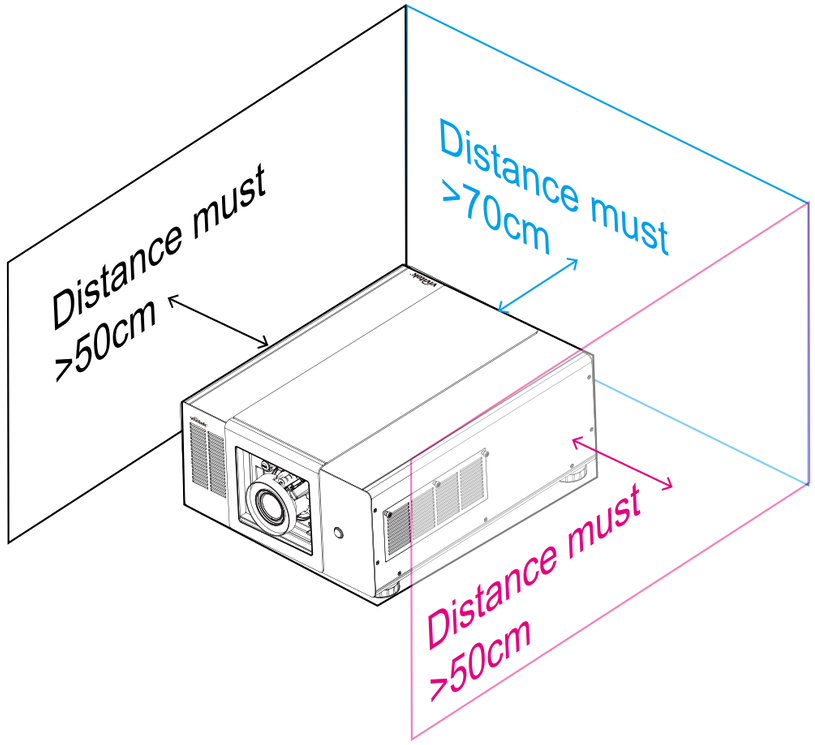
There are 6 fixture screw holes at the bottom of projector for ceiling mounting. The available installation options are as below.
Front: Install the projector on the table and project the image forward.
Rear: Install the projector on the table and project the image from rear.
Ceiling + Front: Mounting the projector on the ceiling and project the image forward.
Ceiling + Rear: Mounting the projector on the ceiling and project the image from rear.

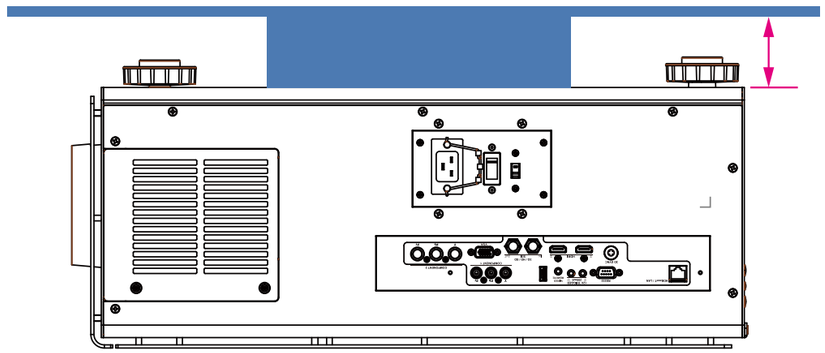
6 fixture screw for ceiling mount
The screw is M6*17mm
Note: The maximum length of screws is 18mm.



Cautions on Ventilation

This product is a high-brightness projector. The intakes with filters are located on the front and right sides to provide sufficient air cooling function. The projector has two vents on the back for cool air discharging. Make sure the intake and vent are unobstructed when the projector is being installed. At least 50cm around the intake and 70cm around the vent should be clear.





Note:
• If the installation distance is not enough, the projector may enter the system protection mode due to the rising ambient temperature after running for a while. Then, projection may be interrupted.
• The service life of components or lamps may be reduced due to the high temperature around the projector.
• If the projector has to be installed in a box or a closed environment, the external intake and vent system should be designed additionally to ensure that there is enough air for cooling or the projector will not be surrounded by heat.

Lens Shift

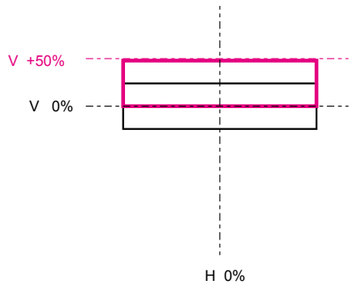
The DU9000 projector has lens shift feature so the image can be vertically shifted without moving the projector.
The lens shift bit is shown in the percentage of the screen height. The projector installed on the desk can move up and down.

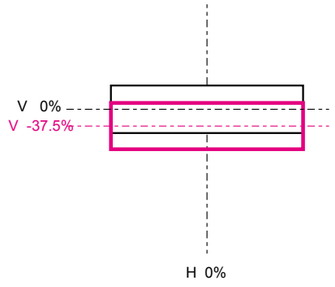
Vertical and Horizontal Lens Shift

The projector installed on the desk can move up and down.

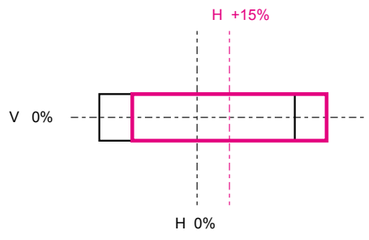
	A	B	C	D
Lens Type	Ultra Wide Angle	Short Throw Lens	Standard Lens	Long Throw
Throw Ratio	0.84 ~ 1.03	1.56 ~ 1.86	1.85 ~ 2.40	2.40 ~ 4.0
Lens model name	D98-0810	D98-1518	D98-1824	D98-2440
Focus (Optical)	1.5 ~ 4.0	2 ~ 7	2.5 ~ 9	4 ~ 12
Brightness(Tyical/Target)	100%	95%	100%	100%
Motorized Zoom/Focus	Zoom: 1.22x	Zoom: 1.19x	Zoom: 1.3x	Zoom: 1.67x
Vertical Lens Shift@H Shift is 0%	±37.5%	±50%	±50%	±50%
Horizontal Lens Shift@V Shift is 0%	±12.5%	±15%	±15%	±15%

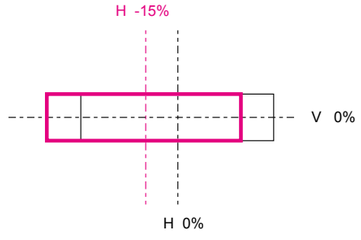
Vertical:





Horizontal:



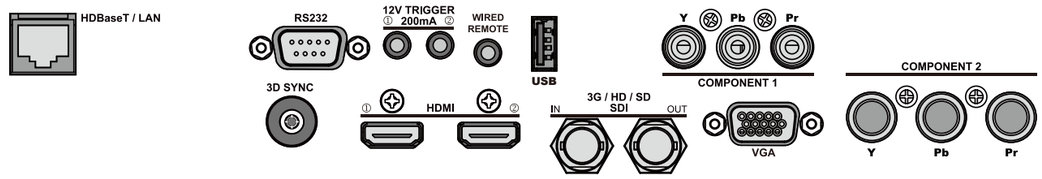


Connecting the Projector to Source Devices

Follow the instructions below to connect the DU9000 projector to the video source, external control equipment (if any) and AC power supply. When connecting to the equipment, use the correct signal cable to connect to every signal source and ensure that the cable is securely connected. Fasten the nut on the joint and connect the signal source equipment to the projector according to the figure below.

Connecting to a Computer

You can connect PC signal to the projector through the HDBaseT, HDMI, and RGB (BNC) cable. If the signal to be input is VGA signal, connect the VGA cable to the external display of the projected screen.



Connecting to Video Equipment

Connect the video equipment to the input port of the projector via the HDBaseT, HDMI, and Component Video Connector cable.

Connecting to Control Equipment

The projector has the following control ports for connecting to the control equipment:

HDBaseT/LAN (Network Control)

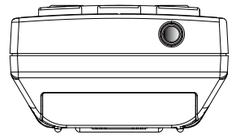
The projector supports network control. LAN and HDBaseT share the same port. If only network control is used, you can connect the LAN on the projector to PC or through the local network. Refer to the remote control guidelines for detailed information.

RS-232 (RS-232c Control)

The projector supports RS-232c serial control. The projector can be remote-controlled by connecting the projector to PC or control system through the standard 9-pin serial cable (Straight through Serial Cable). Refer to the remote control guidelines for detailed information.

Wired Remote Control

If the projector cannot receive the IR signal from the remote control due to the overly long distance or obstacles, you can connect the cable to the IR remote control or the external IR transmitter (optional) via the WIRE input port to expand the working range of the remote control.



3D Sync

3D sync signal output for IR transmitter.

Note: • When the terminal of the remote control cable is inserted to the wired control terminal of the projector, the projector will automatically switch to the wired control mode and cannot be controlled through the IR signal of the remote control. Disconnect the wired control terminal on the projector if you want to control through the IR signal of the remote control. • If the wired remote control cable or the external IR transmitter is inserted to the incorrect port, such as Trigger, the remote control or the IR transmitter may be damaged.
Please do not plug IR remote into 12V trigger.
Make sure whether the port is correct before insertion.

Connecting to the Screen Trigger

If your projection system includes the Electric projection screen and other 12V trigger device, you can connect these devices to the 12V trigger to output and configure the output 12V signal settings, such as automation and the aspect ration of 16:10 through OSD control to Trigger. The projector will output 12V signals according to the current settings of the aspect ratio and trigger when turned on. You can use the signal to control the screen or device.

Connecting to the External HDBaseT Transmitter

The projector has a built-in HDBaseT signal receiver. With the HDBaseT Transmitter (optional), the video, RS-232 and LAN signals can be sent to the projector via a single RJ-45 cable. If the HDBaseT Transmitter you purchased supports the input and output of the IR remote control, the control signals from the IR remote control can't be sent to the DU9000 projector via the RJ-45 cable.

Note:
The projector supports the video signal only, RS-232 and IR remote control are not supported. The reception of the network control signals is also supported.

This projector do not support Power over Ethernet (PoE).

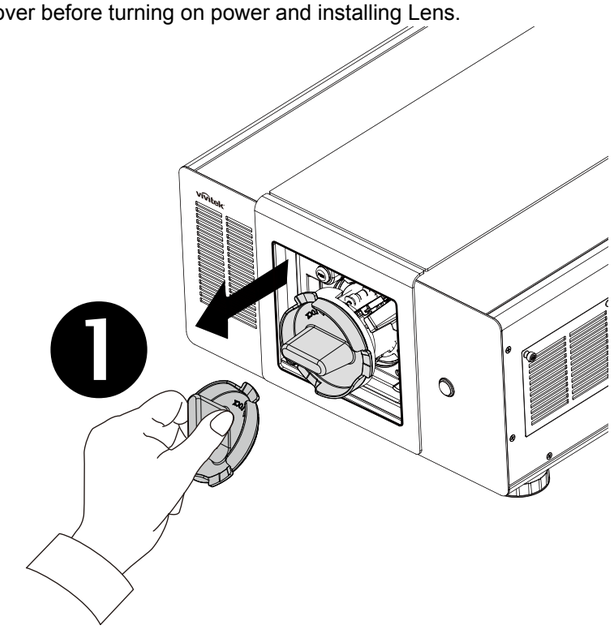
If the Video content is sent via the HDBaseT transmitter, the longest transmission distance is 100 meters.
The projection may be interrupted, interfered, or the control signal cannot be sent if the transmission distance is exceeded.

Use the RJ-45 Cat5e cable and avoid entwining. Entwining may cause damage like interference of signal transmission, reduced transmission distance and degraded image quality.

Before Using the Projector

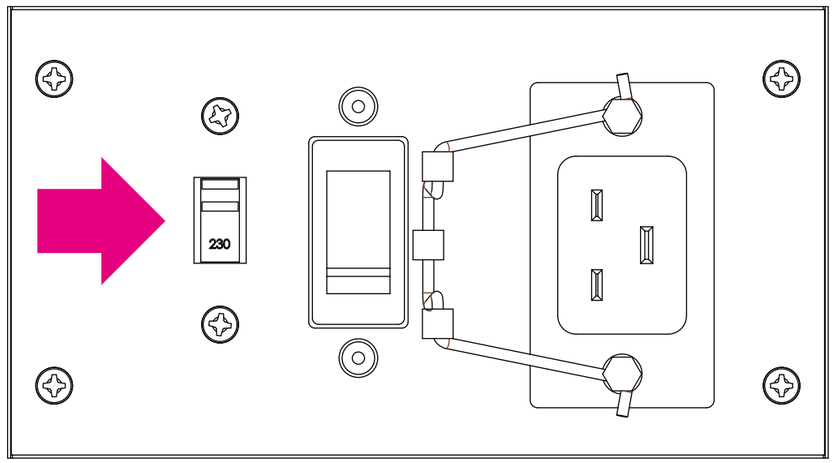
Remove Dust Cover Before Turning on Power

Remove this plastic cover before turning on power and installing Lens.



Connecting to AC Power

There are three AC power cords included in the box.
Before plug the power cord, please choose the compliant power cord for the AC Voltage in you region.
The fuse is different from 110V and 220V, please switch before you plug power cord.
Plug the power cord to AC socket (AC100V- 240V, please make sure the fuse is in correct Voltage) on the side of the projector and plug another end of the AC power cord to the AC outlet.



AC Outlet

USA

Europe

China

- Caution:

Ensure that the power net meets the power requirements of the projector.

- Warning:

Do not attempt operation if the AC supply and cord are not within the specified voltage and power range.

- Caution:

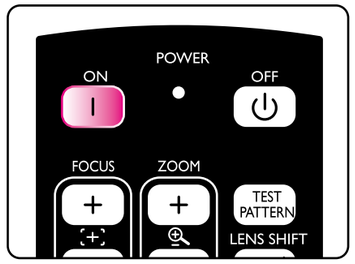
Once the projector is switched to standby, the lamp cooling fans will continue to run for approximately five minutes to ensure that the projector and lamp have sufficiently cooled, at which point the fans will automatically decrease to standby. To avoid thermal stress that can lead to premature lamp failure, never unplug the power cord while the lamp cooling fans are running. Never unplug the power cord to power down the projector, first switch off the power switch and then unplug the power cord.

Make sure the power system (including the projector and power supply system) is properly grounded before connecting to the AC power. The projector may be damaged without the grounding circuit.

This is a high-brightness and high-watt projector. Do not modify the AC power cord or replace the power cord arbitrarily to avoid causing damages to the projector or safety problems.

Turn On

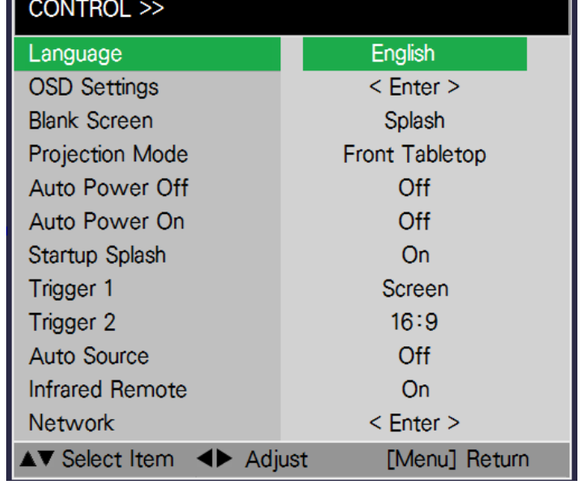
Press ON on the remote control or STBY on the projector. The power and lamp LED indicator flashes blue to show warm-up.



When the power and lamp LED indicator lights are blue and the projector light is turned on, this mean that the projector is ready for use. Refer to Page 9 [Indicator LED] if the LED indicator flashes red. Please contact the Vivitek licensed dealer if the problem cannot be solved.

Changing the OSD Language

The projector can display English and Simplified Chinese menus. Press MENU to show OSD and press ▲▼ to select control items. Press ▲▼ to select language you want to use. Press Enter to confirm the selection.



Adjusting the Projection Mode

The projection mode has influence on the direction of the projected image and cooling. The projection mode option can be used to change the direction of the projected screen and the cooling fan speed to ensure that the projector is properly cooled. The improper projection mode settings may trigger over heating or reduce the service life of lamps and elements. Please make sure the correct projection mode is set when installing the projector.

Press the MENU button on the remote control or the control panel to bring up OSD and set the projection mode, Select CONTROL → Projection Mode

Front Table

Installed on the desk and the projection screen will be shown in the normal direction.

Rear Table

Installed on the desk. The image will be projected from behind the screen and the projected image will be overturned.

Front Ceiling

Ceiling mounted. The image will be projected from the front of the screen and will be overturned on 180 degree. The cooling fan speed will be adjusted.

Rear Ceiling

Ceiling mounted. The image will be projected from behind the screen and the projected image will be overturned on 180 degree. The cooling fan speed will be adjusted.

Rear Tabletop

The projector is installed upwards and the image is projected upwards. The cooling fan speed will be adjusted.

Lens Adjustment

The projector has the features to control the screen size, location and focus. Press the Lens Shift button on the Keypad or the remote control to shift zoom in/out or focus on the projected image.
When you need to operate the Lens Shift, Zoom or Focus from the Keypad, please use Enter key and it will bring up the OSD for lens shift adjustment. Then again press the Enter key on the OSD Menu to Zoom and Focus.

Press Lens shift Key on remote for direct control.

Vertical Lens Shift

Press ▲▼ to move upward or downward to adjust the projected image vertically.

Horizontal Lens Shift

Press ◄► to move to the right or left to adjust the projected image horizontally.

Zoom In/Out

Press ZOOM+/ ZOOM- key to enlarge (zoom in) or reduce (zoom out) the projected image size.

Focus

Press FOCUS+/ FOCUS- key on the control panel to make the image clear.

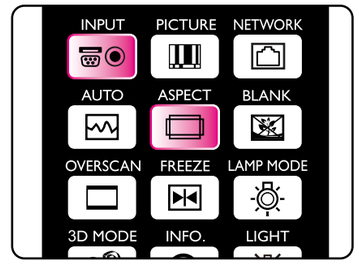
Start Using the Projector-Operation

Select the Input Source

Press the INPUT Source button on the remote control to select the input source.

Select the Aspect Ratio

Press ASPECT to adjust the aspect ratio of the image.



Use OSD (OnScreen Display)

1. Press the MENU button on the remote control or the control panel to show the OSD main menu.
2. Press ◄ or ► to select the sub-menu.
3. Press ▲ or ▼ to select the item of the sub-menu.
4. The selected item will be highlighted, press ▲ or ▼ to select the settings of the item and press ENTER or the ENTER on the control panel to adjust the value of the item.
5. Press MENU to return to the previous menu.
6. Press MENU in the main menu or RETURN to close the OSD menu.

OSD Menu Tree

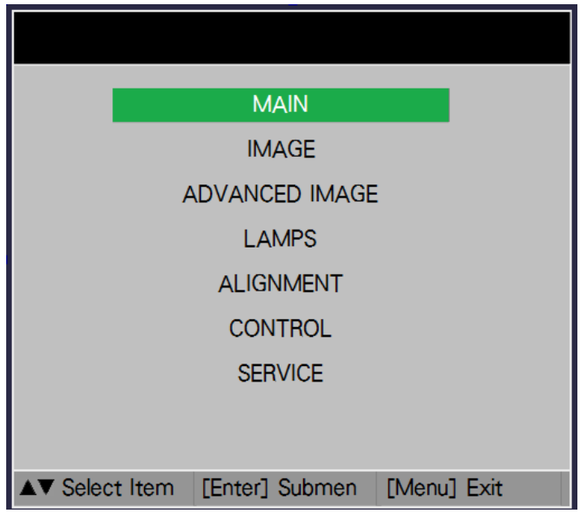
1st Layer	2nd Layer	3rd Layer	Selections	Factory Reset
MAIN	Aspect Ratio		16:9 /LetterBox / 4:3 / 4:3 Narrow / 16:10 / 5:4 / Native	16:10
	Presets	Recall Preset	Preset A/ Preset B / Preset C / Preset D / Default	
		Save Preset	Preset A/ Preset B / Preset C / Preset D	
	Overscan		Off / Crop / Zoom	Off
	3D Control	3D Format	Off / Auto / Side by Side (Half) / Top and Bottom /Dual Channel	Auto
		DLP Link	Off / On	Off
		3D Swap	Normal / Reverse	Normal
		Dark Time	1ms / 1.5ms / 2ms / 2.5ms	2ms
		Sync Delay	0~200	100
		1080p24 3D Display	96Hz / 144Hz	96Hz
	Input Select		HDMI1 / HDMI2 / VGA / COMP1 / COMP2 /SDI / HDBaseT / SDI	HDMI1
	Resync			
IMAGE	Picture Mode		Bright / Presentation / Video	Bright
	Brightness		0 ~ 200	100
	Contrast		0 ~ 200	100
	Saturation		0 ~ 200	100
	Hue		0 ~ 200	100
	Sharpness		0	0
	Noise Reduction		0	0

1st Layer	2nd Layer	3rd Layer	Selections	Factory Reset
ADVANCED	Color Space		Auto / REC709 / REC601/ RGB PC / RGB Video	Auto
	Gamma		1.0 / 1.8 / 2.0 / 2.2 / 2.35 / 2.5 / S-Curve	2.2
	Color Temperature		5500K / 6500K / 7500K / 9300K / Native	Native
	Dynamic Contrast		Off / On	off
	Adaptive Contrast		Off / On	Off
	RGB Adjust	Red Gain	0 ~ 200	100
		Green Gain		
		Blue Gain		
		Red Offset		
		Green Offset		
		Blue Offset		
	Fine Sync	H Position	0 ~ 200	100
		V Position		
		Phase		
		Tracking		
		Sync Level		
	HSG	HSG	Off / On	off
		Red	HUE (0~200) Saturation (0~200) Gain (0~200)	100
		Green		
		Blue		
		Cyan		
		Magenta		
		Yellow		
		White	Red Gain (0~200) / Green Gain (0~200) Blue Gain (0~200)	
		Reset		
LAMPS	Lamp Mode		Eco / Normal / Power	Power
	Power		0~20 (77%~100%)	92%
	Lamp Select		Single / Dual / Lamp1 / Lamp2	Dual
	High Altitude		Off / On	Off
	Lamp1/2 Status			
	Lamp1/2 Run Time			

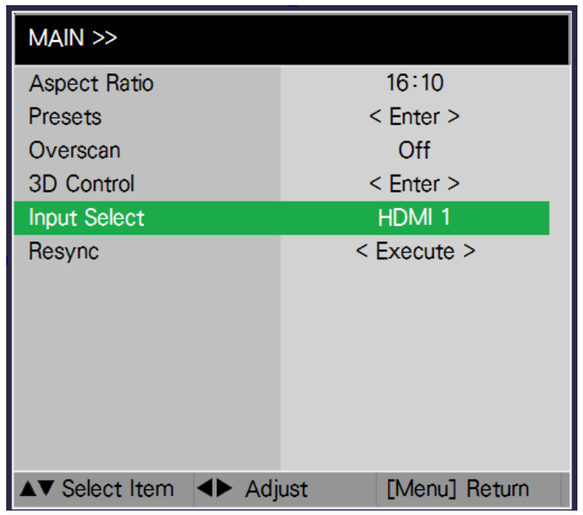
1st Layer	2nd Layer	3rd Layer	Selections	Factory Reset
ALIGNMENT	Lens Control			
	Center Lens			
	Warp	Horizontal Keystone	-350 ~ 350	0
		Vertical Keystone	-200 ~ 200	0
		Rotation	-20 ~ 20	0
		Pincushion / Barrel	-100 ~ 100	0
		Top Left corner	X: +/- 192, Y +/- 120	0
		Top Right corner	X: +/- 192, Y +/- 120	0
		Bottom Left corner	X: +/- 192, Y +/- 120	0
		Bottom Right corner	X: +/- 192, Y +/- 120	0
		Reset	reset all warp item to defaults	0
	Blanking	Top	0 ~ 360	0
		Bottom	0 ~ 360	0
		Left	0 ~ 534	0
		Right	0 ~ 534	0
		Reset	reset all blanking item to defaults	0
	Edge Blend	Status <On/Off>		
		White Level		
		Top	0~500	200
		Bottom	0~500	200
		Left	0~800	200
		Right	0~800	200
		Black Level		
		Top	0~32	0
		Bottom	0~32	0
		Left	0~32	0
		Right	0~32	0
		ALL < >	0~32	0
		RED < 0 >	0~32	0
		GREEN < 0 >	0~32	0
		BLUE < 0 >	0~32	0
		Reset	reset all Edge Blending White and Black level to defaults	
	Test Patterns		White / Black / Red / Green / Blue / ChessBoard / CrossHatch / V Burst / H Burst / ColorBar	

1st Layer	2nd Layer	3rd Layer	Selections	Factory Reset
CONTROL	Language		English / 简中 / Korean	
	OSD Settings	Menu Position	Top Left / Top Right / Bottom Left / Bottom Right / Center	Center
		Menu Transparency	0% / 25% / 50% / 75%	0%
		Time Out	Always On / 10 Seconds / 30 Seconds / 60 Seconds	30s
		Message Box	Off / On	On
	Blank Screen		Splash / Black / Blue / White	Splash
	Projection Mode		Front Tabletop / Front Ceiling / Rear Tabletop / Rear Ceiling	Front Tabletop
	Auto Power Off		Off / On	Off
	Auto Power On		Off / On	Off
	Startup Splash		Off / On	On
	Trigger-1		Screen / 16:9 /LetterBox / 4:3 / 4:3 Narrow / RS232	Screen
	Trigger-2		Screen / 16:9 /LetterBox / 4:3 / 4:3 Narrow / RS232	16:9
	Auto Source		Off / On	Off
	Infrared Remote		Off / On	On
	Network	Standby Power	Off / On	On
		DHCP	Off / On	
		IP	XXX.XXX.X.X	
		Subnet Mask	XXX.XXX.XXX.X	
		Gateway	X.X.X.X	
		DNS	X.X.X.X	
		Apply Settings		
SERVICE	Model Name			
	Serial Number			
	Software Version 1			
	Software Version 2			
	FPGA Version			
	Active Source			
	Signal Format			
	(Timing Info)			
	Lamp1 Run Time			
	Lamp2 Run Time			
	Factory Reset			

OSD Menu - Main Selection

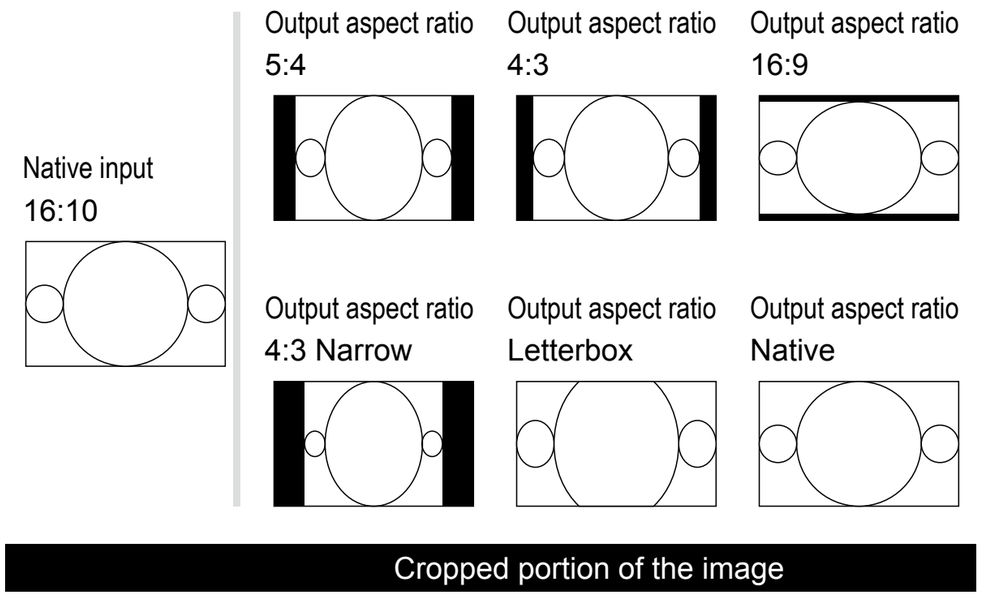


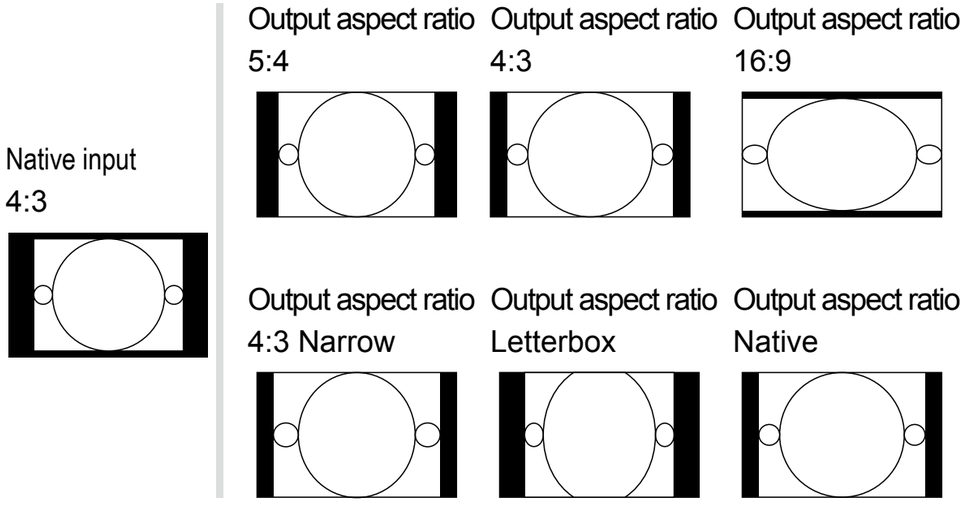
OSD Menu - MAIN



Aspect Ratio

This function allows the user to adjust the aspect ratio of the image.
With a normal input of 16:10, the aspect ratio:
16:9 /LetterBox / 4:3 / 4:3 Narrow / 16:10 / 5:4 / Native





Preset

There are 10 display modes, 6 preset and 4 user assigned, that can be used to adjust the display. Preset modes include: Picture/Brightness/Contrast/Saturation/Hue/Sharpness. The user assigned modes are assigned by the user and memorized by the system.

Input Selection

This function is same as the shortcut key on the remote control. You can use the remote control or this function to select the correct input source.

HDMI
HDMI input from PC or media equipment.

SDI
SDI input from PC or media equipment.

VGA
RGB signal from PC.

Component / BNC
Analog interface in media equipment.

HDBaseT
HDBaseT output of PC, media equipment or HDbaseT transmitter.

Resync
You can use this function to set auto synchronization for the input signal.

3D Control

Set the 3D format and sync method. The projector detects the type of the connected input signal and provides relevant options for setting. The unavailable option is displayed using light green texts. Before performing 3D setting, make sure that the input signal is connected. When there's no input signal, no 3D setting shall be performed.

3D Format
Select this option and press the Enter button to enable 3D replay and set 3D option.

- Off
  Turn off the 3D Display Mode. When Auto, Side by Side, Top/Bottom or Frame Sequential is selected, the 3D Mode will be turned on. To turn off the 3D Mode, select "Off" and press the Enter button.
- Auto
  Enable the 3D format to automatically detect the formats of Frame Packing, Top/Bottom and Side by Side. This function may only be enabled for the input signal below:
  The input signal is HDMI 1.4a 3D.
  The HDMI 1.4a 3D signal connects to the projector through the HDBaseT transmitter.
- Side by Side(Half)
  Manually switch the 3D Format to Side by Side. This option is only applicable to the HDMI input signal or the HDMI signal sent by using the HDBaseT transmitter.
- Top/Bottom: Manually switch the 3D Format to Top/Bottom. This option is only applicable to the HDMI input signal or the aforementioned signal sent through the HDMior HDBaseT transmitter.

DLP Link
Set to activate or deactivate the DLP Link sync.

3D Swap
If the 3D imaged viewed through the 3D glasses for the left and right eyes are inverse, set the 3D Swap to "Inverse". If the images are normal, keep the current setting as Normal.

Dark Time
Manually switch the Dark time for glasses tolerance.

Sync Delay
Manually switch the sync delay for glasses tolerance.

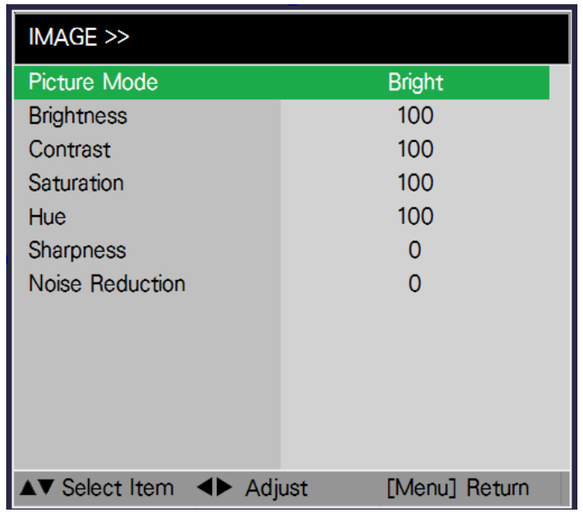
1080P 24 3D Display
Set the 3D 24Hz image frame rate to 96fps or 144fps.This option is only applicable when the input signal is 24Hz.

Note:
The projector provides DLP Link and 3D IR sync. After the 3D Mode is enabled, the built-in DLP Link or external 3D IR transmitter can be used to synchronize the signal of the 3D glasses. Or, you may turn off the DLP Link sync signal and only select the external 3D IR transmitter to synchronize the 3D signal.

Important reminders:
The people listed below should be aware when watching 3D images: Children under six years in age
People who are allergic to light, unhealthy and have the history of cardiovascular diseases
People who are tired or lack of sleep
People who are under the impact of drug or alcohol

Normally, it's safe to watch 3D images. However, some people might feel uncomfortable. Refer to the guidelines revised and released by the 3D League on December 10, 2008.People who watch 3D images need to take a break for at least 5 to 15 minutes every thirty minutes or one hour

OSD Menu - IMAGE



Picture Model

Use ◄► to select a picture model.
Bright: The highest brightness output mode is suitable for the occasion where high brightness is needed.
Presentation: The best image effect is suitable for the presentation or picture.
Video: The best color mode is suitable for playing video.

Brightness

Use ◄► to increase or decrease the brightness of the image.

Contrast

Use ◄► to adjust the contrast of the projected image.

Note
The brightness and contrast controls affect each other. To obtain the best setting, fine-tune of the brightness setting might be needed after adjustment of the contrast.

Saturation

Use ◄► to adjust the saturation level of the color (the higher the level, the higher the saturation).

Sharpness

Use ◄► to adjust the sharpness. The purpose of this adjustment is to change the value of the high-frequency detail.

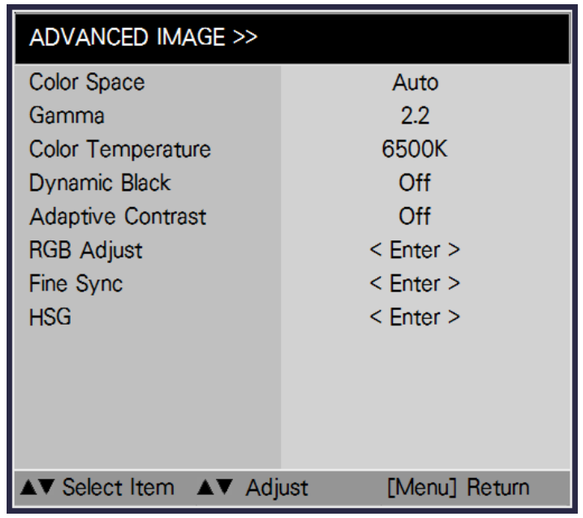
Hue

Use ◄► to adjust the level of hue for reproduction of the true color.

Noise Reduction

Use ◄► to adjust the noise of the projected image. This function is suitable for removing the noise of the image in interlaced scanning input. Generally, noise reduction can lower the value of the high-frequency detail and make the image softer.

OSD Menu - ADVANCED IMAGE



Color Space

This function allows you to change the corresponding color space for the input signal. In most cases, the correct color space can be selected automatically by Auto mode. If the selection is not correct, you can use a specific color space forcibly by selecting one of the following options:

- Auto
  The projector detects the input signal and switches to the corresponding color space automatically.
- REC601
  Set the color space to ITU-R BT.601.
- REC709
  Set the color space to ITU-R BT.709.
- RGB-PC
  Use the RGB color space and set the black to 0, 0, 0 RGB while set the white to 255, 255, 255 RGB (if an 8-bit image is used).
- RGB-Video: Use the RGB color space and set the black to 16, 16, and 16 RGB while set the white to 235, 235, 235 (if an 8-bit image is used) to correspond to the luminance value defined in the digital component standard.

Gamma

When the ambient light is too bright and may affect the display of the details in the darker area of the image, you can select from the following gamma options to adjust the chrominance of the image.
Optional Gamma table : 1.0 / 1.8 / 2.0 / 2.2 / 2.35 / 2.5 / S-Curve

Color Temperature

Use ◄► to adjust the color temp of the projected image.

Dynamic Black

Use the ◄► function to turn on/off Dynamic Black.

Adaptive Contrast

Use ◄► to enable and disable the adaptive contrast function.

Fine Sync

Adjust the sync of signal to get proper display on screen.

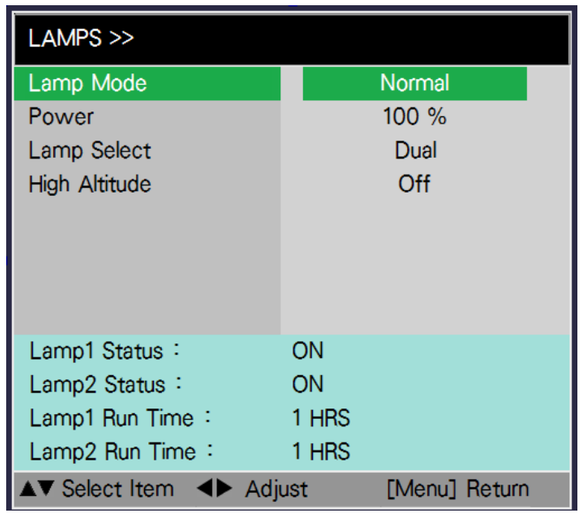
- H and V Position : Adjust horizontal and vertical position of image if not at center.
- Phase : Adjust the phase of signal sampling clock if noise is visible.
- Tracking : Adjust the frequency of signal sampling clock if flicker or vertical banding visible on screen.
- Sync Level : Adjust the voltage level of signal if projector loss sync during scenes where the signal drops below black.

HSG

Provide the capability to define custom color Gamut by setting Hue, Saturation and Gain.

- on – enable HSG adjust function
- Off - disable HSG adjust function.
- Red : Adjust Hue, Saturation and Gain of Red color.
- Green : Adjust Hue, Saturation and Gain of Green color.
- Blue : Adjust Hue, Saturation and Gain of Blue color.
- Cyan : Adjust Hue, Saturation and Gain of Cyan color.
- Magenta : Adjust Hue, Saturation and Gain of Magenta color.
- Yellow : Adjust Hue, Saturation and Gain of Yellow color.
- White : Adjust White Gain of Red, Green and Blue color.
- Reset : Reset all the setting of HSG to default value.

OSD Menu - LAMP



Lamp Mode

Use the ◄► button to select the ECO, Normal or Custom Power Level mode.

- Normal
  Projection is carried out using the normal lamp power to obtain the brightest projection display.
- ECO
  Projection is carried out in the energy saving mode to ensure the longest service life of the lamp.
- Power
  Use the ◄► button to select the Custom Power Level. The projector allows a custom power level equal to 77%~100% of the lamp power in the Normal mode. This function is available only when the lamp power is set to Custom Power Level. It cannot be selected (highlighted) in the Normal or ECO mode.

Power

User can select custom power % of lamp.

Lamp Select

Use the ◄► button to select the single-lamp or dual-lamp mode.

- Dual
  Enable the dual-lamp projection mode.
- Lamp 1
  Use Lamp 1 for projection. The system switches to Lamp 2 if Lamp 1 is abnormal in activation.
- Lamp 2
  Use Lamp 2 for projection. The system switches to Lamp 1 if Lamp 2 is abnormal in activation.
- Single: Use the single-lamp mode for the projection. The lamp is not specified in this mode, the projector selects the lamp that has the least operation hours automatically whenever it is turned on.

Note
1. In the Lamp 1 or Lamp 2 mode, the projector will switch to another lamp when the set lamp becomes abnormal. The corresponding LED indicator of the lamp will flash simultaneously for seconds and light up. 2. When the lamp mode is set to Single, the setting will become valid upon turn-on of the projector next time. 3. Quick switch of the lamp mode may affect the life of the lamp. The projector will disable the lamp mode function (highlighted) every time when a switch is conducted till the switch of the lamp mode is completed. The lamp mode options will not be available before the switch of the lamp mode is completed.

High Altitude

Use this function to control the cooling fan of the projector. You can set it to OFF or ON, the default setting is OFF.
keystone, the projector can operate normally when this function is set to OFF. The projector detects ambient temperature by default to regulate the cooling fan speed. When the temperature rises, the cooling fan speeds up (with higher noise) to exhaust the internal heat energy out of the projector and ensure its normal operation. However, the projector may turn off automatically if it is used in an environment at excessively high temperature or in an area at a high altitude. In this case, you can enable this function by setting it to ON and have the cooling fan operate at a higher speed to control the internal temperature of the projector.

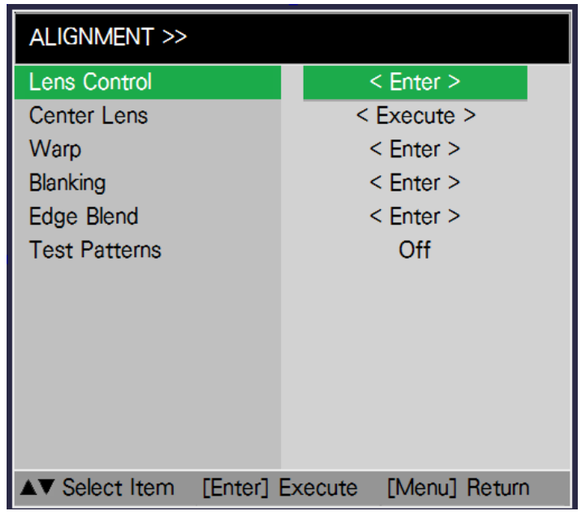
Lamp 1/2 Status

This is status of lamp turn on or not.

Lamp 1/2 Run Time

Total lamp used hours of Lamp1 or Lamp2.

OSD Menu - ALIGNMENT



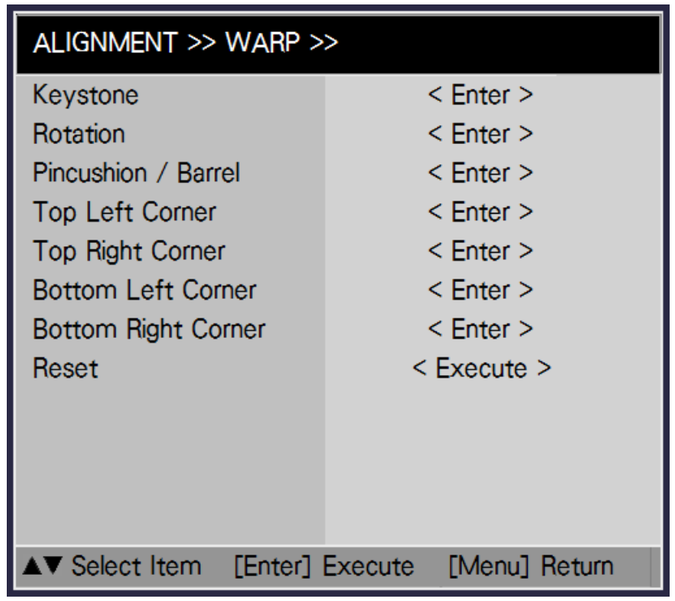
Lens Control

Select this function to open the Lens Control menu for adjustment of Zoom, Focus or Shift. You can use the Enter button to switch the Zoom/Focus or Shift menu. Use ◄► to adjust zooming and horizontal shift of the lens, or use ▲▼ to adjust focusing and vertical shift of the lens.

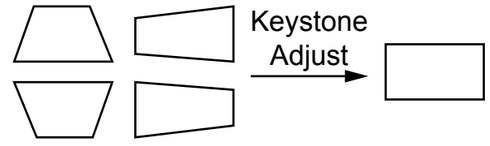
Center Lens

This is the lens calibration function. The projector adjusts the lens parameters for the lens memory function to work and sets the lens to the default center position.

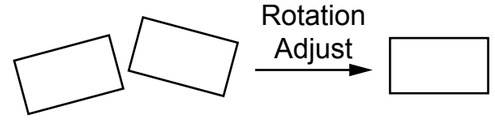
Warp



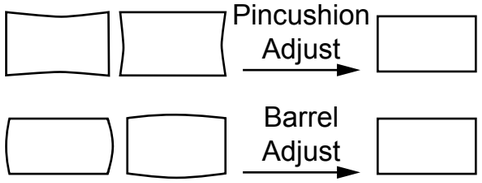
- Keystone
  Adjust the keystone of the projected picture.



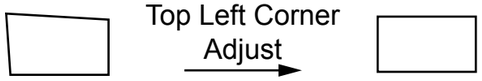
- Rotation
  Adjust the Rotation of the projected picture.



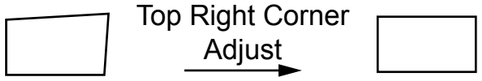
- Pincushion/Barrel
  Adjust the Pincushion / Barrel of the projected picture.



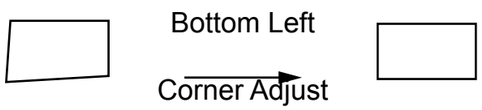
- Top Left Corner
  Adjust the Top left corner of the projected picture



- Top Right Corner
  Adjust the Top right corner of the projected picture



- Bottom Left Corner
  Adjust the bottom left corner of the projected picture



- Bottom Right Corner
  Adjust the bottom right corner of the projected picture

Blanking

Use this function to adjust the edges of the image and hide unwanted sections of the screen.

- TOP
  Press◄► on the remote control to adjust the top blanking area on the projected image.
- Bottom
  Press ◄► on the remote control to adjust the bottom blanking area on the projected image.
- Left
  Press◄► on the remote control to adjust the left blanking area on the projected image.
- Right
  Press◄► on the remote control to adjust the right blanking area on the projected image.
- Reset
  It will reset all the blanking functions to the default settings that is without any blanking functions enabled.

Edge Blend

Edge blend function requires multiple projectors simultaneously displaying on the same screen. Use this to adjust the uniformity of the images.
To use this function, Edge Blending must be enabled on both projectors.
Status On/Off To enable or Disable Edge Blend function.

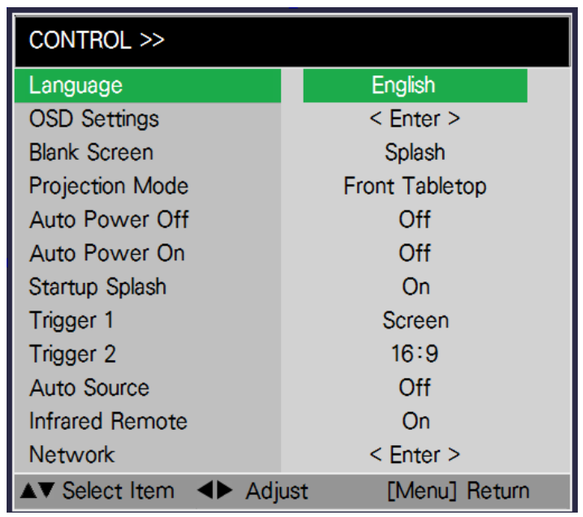
- White Level
  White Level is used to compensate for the lack of pure white output from projectors, due to light leaking to the projection screen. When projecting White , the hot area where the two images overlap project twice the projectors' white output levels.
  The solution is to adjust the White Level. First make sure that the units connected to the projectors are outputting black. Then increase the White Level (Top, Bottom, Left, Right) until the non-overlap area's brightness matches the overlap area.
  To adjust White Level
  1. Press Menu to activate menu
  2. Press ◄► to select Alignment and press Enter.
  3. Press ◄► to select Edge Blend and press Enter.
  4. Press ◄► to select White Level and press Enter.
  5. Adjust the black level in zone A by setting the Selected Area (Top, Bottom, Left, Right) to match the black levels in zones B and C. You can also use Adjust (All, Red, Green, Blue) to set all primary colors.
- Black Level
  Black Level is used to compensate for the lack of pure black output from projectors, due to light leaking to the projection screen. When projecting black , the hot area where the two images overlap project twice the projectors' black output levels.
  The solution is to adjust the Black Level. First make sure that the units connected to the projectors are outputting black. Then increase the Black Level (Top, Bottom, Left, Right) until the non-overlap area's brightness matches the overlap area.
  To adjust Black Level
  1. Press Menu to activate menu
  2. Press ◄► to select Alignment and press Enter.
  3. Press ◄► to select Edge Blend and press Enter.
  4. Press ◄► to select Black Level and press Enter.
  5. Adjust the black level in zone A by setting the Selected Area (Top, Bottom, Left, Right) to match the black levels in zones B and C. You can also use Adjust (All, Red, Green, Blue) to set all primary colors.

Note:
****Four corners, black level uplift adjustment function is not available.***
****Corner blending, black level uplift adjustment function is not available.***

Test Pattern

The built-in image is provided for installation and adjustment. You can select Test Pattern on OSD or the TEST PATTERN button on the remote control to display the test pattern. Press the button again to display the next test pattern or press the RETURN button to exit the test pattern.

OSD Menu - Control

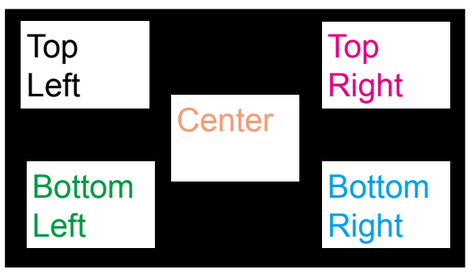


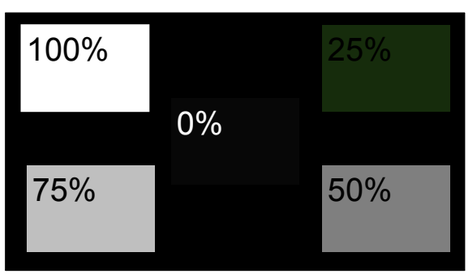
Language

Select the OSD language English or Simplified Chinese.

OSD Setting

1. Menu Position
   Select the OSD pop up position.
2. Menu Transparency
   Setting the OSD transparency 0%, 25%, 50%, 75%
3. Time Out
   Select OSD display timing. Such as Always On(press menu button on Remote control or key-pad to hide the OSD), 10 Seconds, 30 Seconds and 60 Seconds.
4. Message Box
   Select ON or OFF.





Blank Screen

Use the ◄► button to select Screen display under no signal status.

Projection Mode

Use the ◄► button to select a projection mode: Front, Rear, Ceiling + Front, Ceiling + Rear
Refer to Page 20 [Adjusting the Projection Mode]

Auto Power Off

This function is set to OFF by default. When it is set to ON and no input signal is received within 20 minutes, the projector will turn off automatically.

Auto Power On

This function is set to OFF by default. When it is set to ON and connected to an AC power source the projector will turn on automatically. When you plug the power cable of the projector in an AC socket attached with a switch, you can use this function and the power switch (instead of the remote control) to turn on the projector. Set this function to OFF if you do not need to use it.

Startup Splash

Use the ◄► button to turn on/off the Startup Logo. You can choose Splash, Black, Blue or White from OSD. Default setting is: Splash

Trigger 1 & 2

The projector is provided with a set of trigger output. When automatic screen equipment is available, connect it to the screen trigger of the projector by using the cable. The screen automatically turns on when the projector is powered on. There is a 2-3 second delay before this function is activated.

Screen: When the Screen aspect ratio is selected, the trigger outputs 12V power.
16:9: When the 16:9 aspect ratio is selected, the trigger outputs 12V power.
Letterbox: When the aspect ratio having the letterbox shape is selected, the trigger outputs 12V power.
4:3: When the 4:3 aspect ratio is selected, the trigger outputs 12V power.
4:3 Narrow: When the 4:3 Narrow aspect ratio is selected, the trigger outputs 12V power.
RS232: When the RS232 aspect ratio is selected, the trigger outputs 12V power.

Auto Source

Use the ◄► button to turn on/off Auto source Search

Infrared Remote

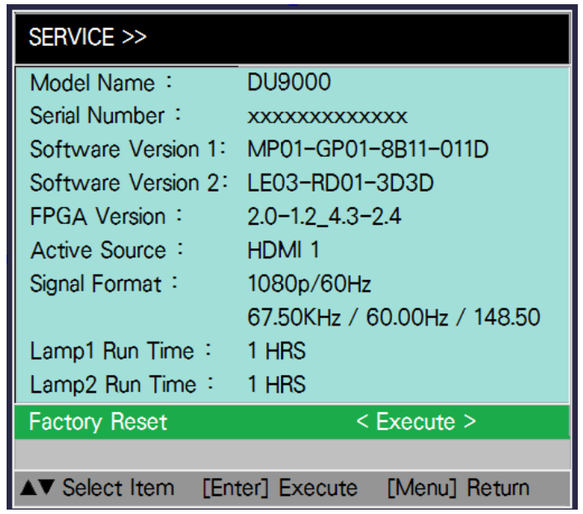
Use the ◄► button to turn on/off Infrared Remote function.

Network

Use this function to set up network configurations so that you can control the projector via the network.
Use ▲▼ and the Enter button to select Network and network settings:

- DHCP
  Set DHCP to ON/OFF. When DHCP is set to ON, the DHCP server of the domain will assign an IP address to the projector. The IP address will appear in the IP address window and you don't need to make any input. Otherwise, the domain does not or cannot assign any IP address, and 0.0.0.0 is shown on the IP address window.
- IP Address
  To specify an IP address, press the Enter button to show the IP address input window. Use the ◄► button to select the number in the address to change. Use the ▲▼ button to increase or decrease the number in the IP address. Network IP Address 172 . xxx . xxx . xxx
- Submask
  Set the submask. The input method is same as the IP address.
- Gateway
  Set the gateway. The input method is same as the IP address.
- DNS
  Set the DNS. The input method is same as the IP address
- Apply Setting
  Apply all the setting to memory if changed.

OSD Menu - Service


SERVICE >>
Model Name : DU9000
Serial Number : xxxxxxxxxxxxx
Software Version 1: MP01-GP01-8B11-011D
Software Version 2: LE03-RD01-3D3D
FPGA Version : 2.0-1.2_4.3-2.4
Active Source : HDMI 1
Signal Format : 1080p/60Hz
67.50KHz / 60.00Hz / 148.50
Lamp1 Run Time : 1 HRS
Lamp2 Run Time : 1 HRS
Factory Reset < Execute >
▲▼ Select Item [Enter] Execute [Menu] Return

The functions of the projector are related to the display of some basic information of the projector.
Model: Projector model name.
Serial Number: Projector serial number.
Software Version1&2: The version of the software installed in the projector.
FPGA Version: The version of the Software installed in the projector.
Active Source: Display the current source.
Signal Format: Display the format of the current input signal.
(Time Info): Display the H/V refresh rate of the current image.
Lamp 1 Time: Display the using hours of Lamp 1.
Lamp 2 Time: Display the using hours of Lamp 2.
Factory Reset: Use this function to restore the configuration of the menu to the factory default setting.All of the user setting options of the projector will be deleted and restored to the factory default settings.

Maintenance

Replacing the Lamps

Depending on the lamp model, the lamp life is affected by the installation method and frequency of the lamp on/off operation. It is suggested to replace the projector lamp when it has been used for approximately 1500 hours to ensure high projection quality. In the OSD Menu, you can check the lamp using time from the "OSD Menu - Service". You should replace the lamp when the projected image is obviously darkened. Contact your local dealer to purchase the authorized new lamp that suits to your projector.

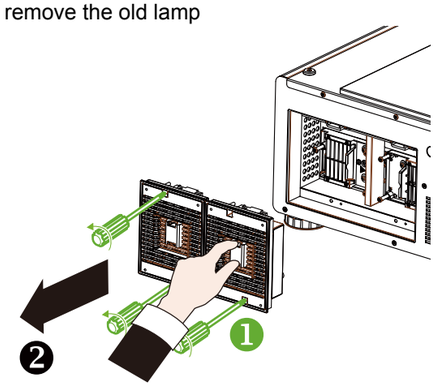
Note: • Purchase the lamp module produced by Vivitek. Using the lamp that is not made by Vivitek may affect the performance of the projector or damage the projector.

How to Replace the Projector Lamp

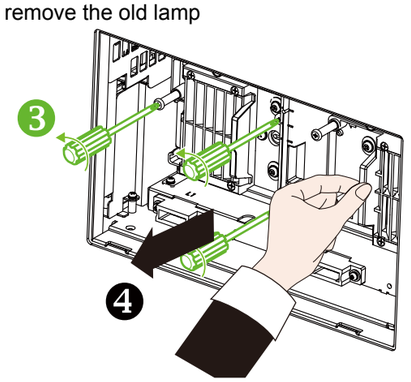
1. Turn off the projector and unplug the power cord. Wait for the projector, lamp and peripheral devices to cool down. Then remove the lamp module.

Note: • When the projector is just turned off, the temperature of the lamp inside the projector is still very high (about 200~300°C). You might be burnt if attempting to replace the lamp when the projector is not cooled off. The lamp can be replaced safely when the lamp is cooled off.

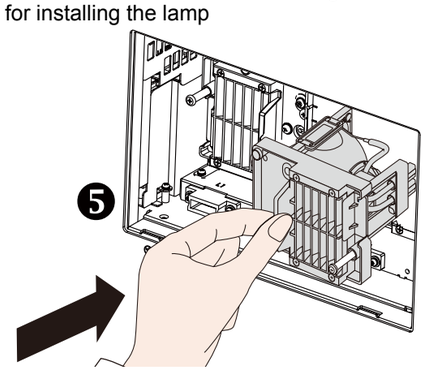
2. Use a screwdriver to unscrew the screws and remove the old lamp



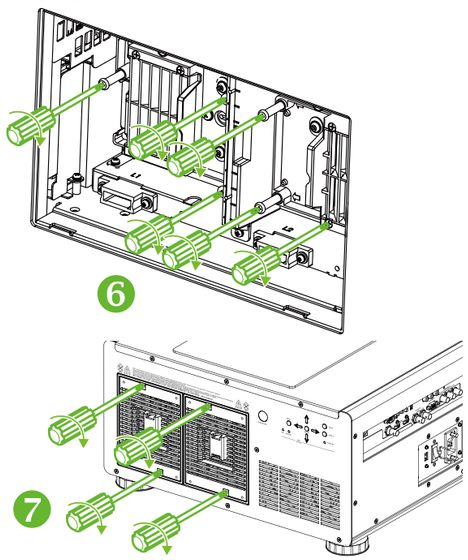
3. Use a screwdriver to unscrew the screws and remove the old lamp



4. Insert the new lamp and follow original directions for installing the lamp



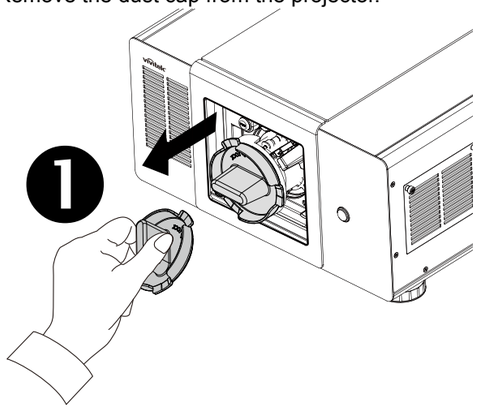
5. Follow drawing ❻❼ to tighten the lamp and lamp cover.



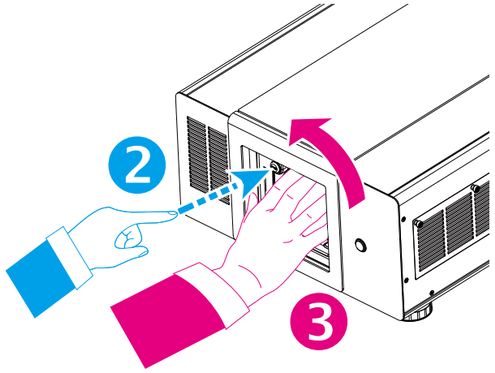
Installing or Removing the Projection Lens

Remove Lens

1. Remove the dust cap from the projector.

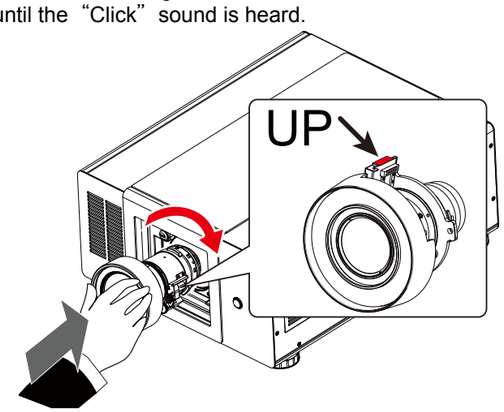


2. Press the release button ❷ and then turn in a Counter Clockwise direction to remove the lens.



Install Lens

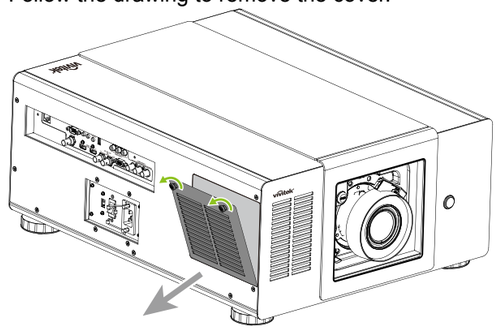
3. Follow the drawing to re-install the lens into the lens slot. Slowly turn the lens in a clockwise direction until the "Click" sound is heard.



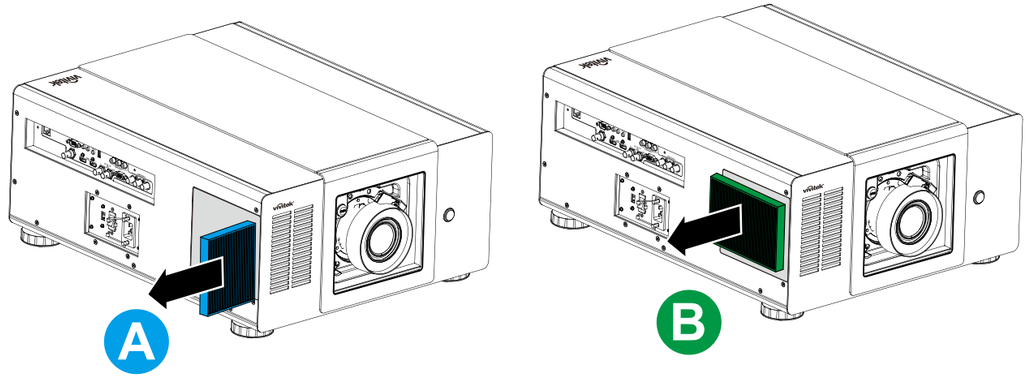
Replacing the Filter

The timing of replacing the filter may vary depending on the dustiness of the environment. It is recommended to conduct regular check of the filter to achieve the best projector performance.

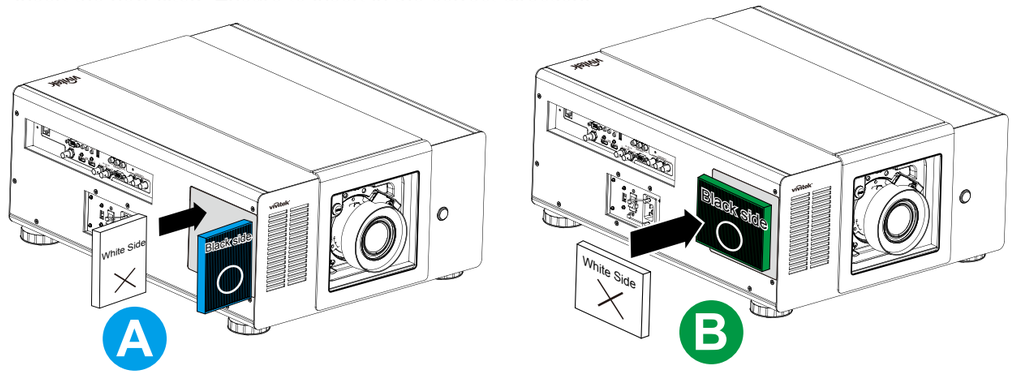
1. Follow the drawing to remove the cover.



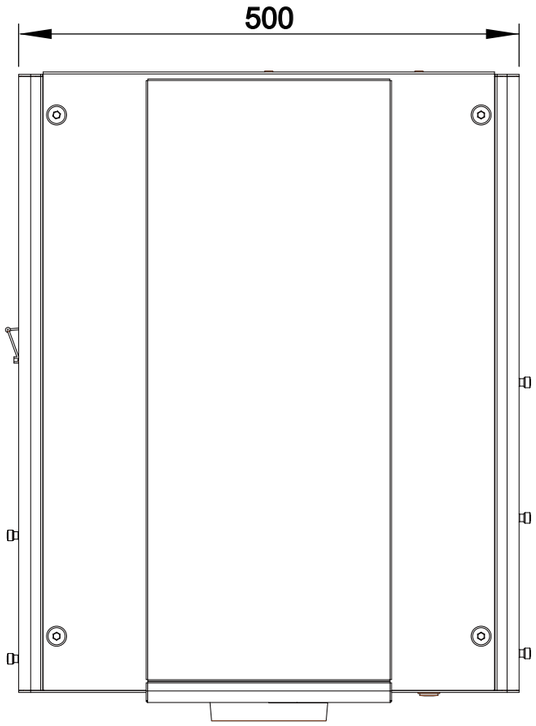
2. Take out the old filter.

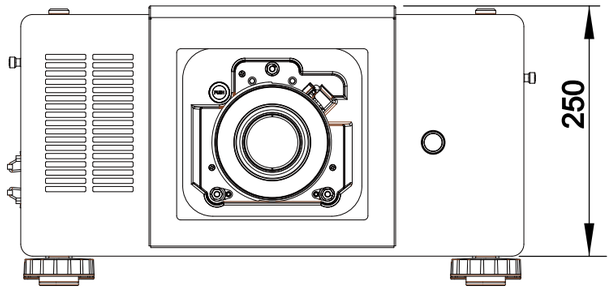


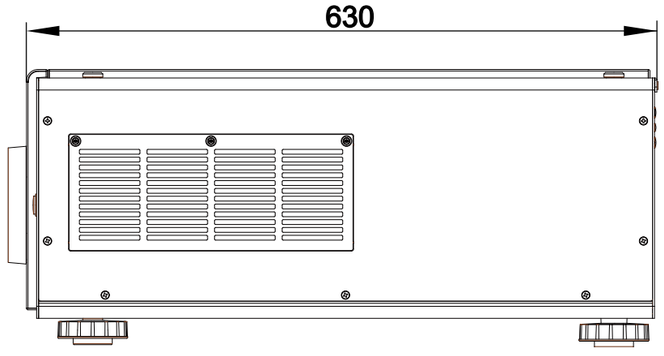
3. Insert the new filter. Ensure to insert in the correct direction.



Outline Dimensions







Supported Signal Input Timing

Signal Type	Resolution	Frame Rate	Y-Pr-Pb	RGBHV	YUV	HDMI RGB	HDMI - YUV 8/10/12-bit	HDBaseT	HD-BaseT YUV 8-bit	References
PC	640x480	59.94		v		V		V		VESA DMT
	640x480	74.99		v		V		V		VESA DMT
	640x480	85		v		V		V		VESA DMT
	800x600	60.32		v		V		V		VESA DMT
	800x600	75		v		V		V		VESA DMT
	800x600	85.06		v		V		V		VESA DMT
	848x480	47.95		v		V		V		VESA CVT
	848x480	59.94		v		V		V		VESA CVT
	1024x768	60		V		V		V		VESA DMT
	1024x768	75.03		V		V		V		VESA DMT
	1024x768	85.03		V		V		V		VESA DMT
	1024x768	70.1		V		V		V		VESA DMT
	1280x720	47.95		V		V		V		VESA GTF
	1280 x 768	60.0		V		V		V		VESA DMT
	1280 x 768	60.0		V		V		V		VESA DMT Reduced Blanking
	1280 x 768	75.0		V		V		V		VESA DMT
	1280 x 768	85.0		V		V		V		VESA DMT
	1280 x 800	50.0		V		V		V		VESA DMT
	1280 x 800	60.0		V		V		V		VESA DMT
	1280 x 800	75.0		V		V		V		VESA DMT
	1280x1024	60.02		V		V		V		VESA DMT
	1280x1024	75.02		V		V		V		VESA DMT
	1280x1024	85.02		V		V		V		VESA DMT
	1400x1050 _60_RB	59.948		V		V		V		VESA DMT
	1400x1050 _60	59.978		V		V		V		VESA DMT
	1400x1050 _75	74.867		V		V		V		VESA DMT
	1440x900 _60	60.0		V		V		V		VESA DMT
	1440x900 _75	75.0		V		V		V		VESA DMT
	1600x1200	60		V		V		V		VESA DMT
	1680x1050	59.94		V		V		V		VESA DMT
	1920x1080	47.95		V		V		V		VESA CVT
	1920x1200	60		V		V		V		Reduced Blanking
Apple Mac	640x480	66.67		V		V		V		VESA DMT
	832x624	74.54		V		V		V		VESA DMT
SDTV	480i	59.94	V			V	V	V	V	SMPTE 125M, CEA-861-D
	576i	50	V			V	V	V	V	ITU-R BT.601, CEA-861-D
EDTV	480p	59.94	V	V	V	V	V	V	V	SMPTE 293M, CEA-861-D
	576p	50	V	V	V	V	V	V	V	ITU-R BT.1358, CEA-861-D

Signal Type	Resolution	Frame Rate	Y-Pr-Pb	RGBHV	YUV	HDMI RGB	HDMI - YUV 8/10/12-bit	HDBaseT	HD-BaseT YUV 8-bit	References
HDTV	1080i	50	V	V	V	V	V	V	V	SMPTE 274M, CEA-861-D
		59.94	V	V	V	V	V	V	V	SMPTE 274M, CEA-861-D
		60	V	V	V	V	V	V	V	SMPTE 274M, CEA-861-D
	720p	50	V	V	V	V	V	V	V	SMPTE 296M, CEA-861-D
		60	V	V	V	V	V	V	V	SMPTE 296M, CEA-861-D
	1080p	24	V	V	V	V	V	V	V	SMPTE 274M, CEA-861-D
		25	V	V	V	V	V	V	V	SMPTE 274M, CEA-861-D
		30	V	V	V	V	V	V	V	SMPTE 274M, CEA-861-D
		50	V	V	V	V	V	V	V	SMPTE 274M, CEA-861-D
		60	V	V	V	V	V	V	V	SMPTE 274M, CEA-861-D

3D Signal Input Mode & Timing

Timing	Frequency	Format	Support	Remark
720p	59.94 / 60Hz	Frame Pack	V	HDMI Port /HDBaseT
		Side by Side (Horizontal)	V	HDMI Port /HDBaseT
		Top / Bottom	V	HDMI Port /HDBaseT
		Dual Channel	V	HDMI Port
	50Hz	Frame Pack	V	HDMI Port /HDBaseT
		Side by Side (Horizontal)	V	HDMI Port /HDBaseT
		Top / Bottom	V	HDMI Port /HDBaseT
		Dual Channel	V	HDMI Port
	23.98 / 24Hz	Frame Pack	V	HDMI Port /HDBaseT
	29.97 / 30Hz	Frame Pack	V	HDMI Port /HDBaseT
1080i	50Hz	Frame Pack	X	
		Side by Side (Horizontal)	V	HDMI Port /HDBaseT
		Dual Channel		HDMI Port
1080p	23.98 / 24Hz	Frame Pack	V	HDMI Port /HDBaseT*
		Side by Side (Horizontal)	V	HDMI Port /HDBaseT*
		Top / Bottom	V	HDMI Port /HDBaseT*
		Dual Channel	V	HDMI Port*
	29.97 / 30Hz	Frame Pack	V	HDMI Port /HDBaseT
		Top / Bottom	V	HDMI Port /HDBaseT
		Dual Channel	V	HDMI Port
	59.94 / 60Hz	Top / Bottom	V	HDMI Port /HDBaseT
		Dual Channel	V	HDMI Port
	50Hz	Top / Bottom	V	HDMI Port /HDBaseT
		Dual Channel	V	HDMI Port /HDBaseT
1920x1200	60Hz RB	Dual Channel	V	HDMI Port
1280x1024	60Hz	Dual Channel	V	HDMI Port
1400x1050_60	60Hz	Dual Channel	V	HDMI Port

Serial Interface RS-232 Command

This controller supports projectors with a RS-232 serial interface. There are two types of serial commands:

- Operation command: Available menu options are INPUT, PICTURE, LAMP, ALIGNMENT, CONTROL, SERVICE, and OTHERS.
- Simulated IR remote controller commands: Controls projector with serial command analog IR remote controller and its control keys.

Communication Parameter Setup

You can use the serial control command to input commands for projector control or retrieve its operational data through Windows client terminal software, e.g. Hyper Terminal, with ASCII characters. You need to set up the following communication parameters in advance:

Item	Parameter
Bit per Second	9600
Data Bit	8-bit
Parity	None
Stop Bit	1
Flow Control	None
Port	None

Caution:
The terminal software does not return every command input character
The transmission performance would vary with the matching length of RS-232 cable and transmission speed. Please select proper transmission from the OSD menu.

Operation Commands

Operation command syntax

An operation command is prefixed by character "op", followed by control commands and settings separated by space blank [SP], and ended by carriage return pair "CR" and "ASCII hex 0D". Syntax of serial control commands:

op [SP]<operation command>[SP]<Setting Value>[CR]

op : A constant indicating this is an operation command.
[SP] : Indicate one blank space.
[CR] : Indicate the command ending carriage return pair "CR" and "ASCII hex 0D".
Setting value : Settings of operation command

Types of setup strings	Characters of settings	Description
Query current setup	?	Question mark "?" indicates querying current setup
Setup	= <settings>	Syntax of settings: Symbol "=" suffixed with setup values
Increase setup order of adjustment items	+	Some settings are changed in steps. Symbol "+" indicates changing one step up
Decrease setup order of adjustment items	-	Some settings are changed in steps. Symbol "-" indicates changing one step down
Execute operation command	None	Certain operation commands execute after input without further setting or regulators.

Examples

Control items	Input command row	Projector return message
Query current brightness settings	op bright ? [CR]	OP BRIGHT = 101
Set up brightness	op bright = 127 [CR]	OP BRIGHT = 127
Set up input signal source to HDMI	op input.sel = 0 [CR]	OP INPUT.SEL = 0
Reset camera to center position		

Caution:
When controlling the projector to execute multiple commands, make sure the return message of the last command is received before sending out the next one.

List of Operation Commands

Serial Command Vivitek	Operation	Value	Remark 1
power.on	= ?	0 = Off 1 = On	
power.off			
aspect	= ? (default)	0 = 16:9 1 = Theaterscope (LetterBox) 2 = 4:3 3 = 4:3 Narrow 4 = 16:10 5 = 5:4 6 = Native	Note: (default) : commands sent without operand will return default value.
zoom	= ? (default)	0 = Off 1 = Crop 2 = Zoom	
recall.mem	= ?	0 = Preset A 1 = Preset B 2 = Preset C 3 = Preset D 4 = Default	Recall memory settings
save.mem	=	0 = Preset A 1 = Preset B 2 = Preset C 3 = Preset D	Save memory settings
3d.format	= ? (default)	0 = Off 1 = Auto 2 = Side-By-Side (Half) 3 = Top-And-Bottom 4 = Dual Channel	
3d.swap	= ? (default)	0 = Normal 1 = Reverse	
3d.dlplink	= ? (default)	0 = Off 1 = On	Note: Only Available in 3D Mode
3d.darktime	= ? (default)	0 = 1.0 ms 1 = 1.5 ms 2 = 2.0 ms 3 = 2.5 ms	Note: Only Available in 3D Mode
3d.syncoffset	= ? (default)	0 – 200	Value is available from 0 to 200 Formulate for SyncDelay range is -12.8 ms to 12.7 ms.

Serial Command Vivitek	Operation	Value	Remark 1
3d.24	= ? (default)	0 = 96Hz 1 = 144Hz	1080p24 output frame rate setting for 3D Note: Only Available in 3D Mode
pic.mode	= ? (default)	0 = Brigh 1 = Presentation (2D) 2 = Video	
bright	= ? (default)	0 – 200	
contrast	= ? (default)	0 – 200	
saturat	= ? (default)	0 – 200	
tint	= ? (default)	0 – 200	
sharp	= ? (default)	0 – 200	
nr	= ? (default)	0 – 200	
input.sel	= ? (default)	0 = HDMI 1 1 = HDMI 2 2 = D-sub (RGB) 3 = YPrPb 1 (RCA) 4 = YPrPb 2 (BNC) 5 = HDBaseT 6 = SDI	
auto.img	(execute)		
color.space	= ? (default)	0 = Auto 1 = REC709 2 = YCbCr 3 = RGB-PC 4 = RGB-Video	Note: YPbPr equal original REC709. YCbCr equal original REC601.
gamma	= ? (default)	0 = 1.0 1 = 1.8 2 = 2.0 3 = 2.2 4 = 2.35 5 = 2.5 6 = S-Curve	
color.temp	= ? (default)	0 = 5500K 1 = 6500K 2 = 7500K 3 = 9300K 4 = Native	
dblack	= ? (default)	0 = Off 1 = On	
red.offset	= ? (default)	0 – 200	
green.offset	= ? (default)	0 – 200	
blue.offset	= ? (default)	0 – 200	
red.gain	= ? (default)	0 – 200	
green.gain	= ? (default)	0 – 200	
blue.gain	= ? (default)	0 – 200	
v.pos	= ? (default)	0 – 200	
h.pos	= ? (default)	0 – 200	
h.phase	= ? (default)	0 – 200	
tracking	= ? (default)	0 – 200	
sync.level	= ? (default)	0 – 200	
hsg.stat	= ? (default)	0 = Off 1=On	
hsg.r.gain	= ? (default)	0 – 200	
hsg.r.sat		0 – 200	
hsg.r.hue		0 – 200	

Serial Command Vivitek	Operation	Value	Remark 1
hsg.g.gain	= ? (default)	0 – 200	
hsg.g.sat	= ? (default)	0 – 200	
hsg.b.hue	= ? (default)	0 – 200	
hsg.b.sat	= ? (default)	0 – 200	
hsg.b.hue	= ? (default)	0 – 200	
hsg.c.gain	= ? (default)	0 – 200	
hsg.c.sat	= ? (default)	0 – 200	
hsg.c.hue	= ? (default)	0 – 200	
hsg.m.gain	= ? (default)	0 – 200	
hsg.m.sat	= ? (default)	0 – 200	
hsg.m.hue	= ? (default)	0 – 200	
hsg.y.gain	= ? (default)	0 – 200	
hsg.y.sat	= ? (default)	0 – 200	
hsg.y.hue	= ? (default)	0 – 200	
hsg.wr.gain	= ? (default)	0 – 200	
hsg.wg.gain	= ? (default)	0 – 200	
hsg.wb.gain	= ? (default)	0 – 200	
hsg.reset	(execute)	0 – 200	
lamps	= ? (default)	0 = Single 1 = Dual 2 = Lamp1 3 = Lamp2	
lamp.mode	= ? (default)	0 = Economy 1 = Standard 2 = Power	
lamp.pwr	= ? (default)	0 - 20 (77% - 100%)	
lamp1.stat	?	0 = Off 1 = On	
lamp2.stat	?	0 = Off 1 = On	
altitude	= ? (default)	0 = Off 1 = On (High Altitude)	
osd.timer	= ? (default)	0 = Always 1 = 10 sec. 2 = 30 sec. 3 = 60 sec.	
osd.menupos	= ? (default)	0 = Top Left 1 = Top Right 2 = Bottom Left 3 = Bottom Right 4 = Center	
osd.trans	= ? (default)	0 = 0% 1 = 25% 2 = 50% 3 = 75%	
osd.msgbox	= ? (default)	0 = Off 1 = On	
remote.set	= ? (default)	0 = Disable 1 = Enable	
no.signal	= ? (default)	0 = Logo 1 = Black 2 = Blue 3 = White	
startup.logo	= ? (default)	0 = Off 1 = On	

Serial Command Vivitek	Operation	Value	Remark 1
auto.powoff	= ? (default)	0 = Off 1 = On	
auto.powon	= ? (default)	0 = Off 1 = On	
proj.mode	= ? (default)	0 = Front Tabletop 1 = Front Ceiling 2 = Rear Tabletop 3 = Rear Ceiling	
zoomio	(execute)		
	(execute)		
focus	(execute)		
	(execute)		
vert.offset	(execute)		
	(execute)		
horiz.offset	(execute)		
	(execute)		
pic.mute	= ? (default)	0 = Open 1 = Close	
lens.center	(execute)		(Midposition shift)
net.ipaddr	= ?	<string>	
net.subnet	= ?	<string>	
net.gateway	= ?	<string>	
net.dns	= ?	<string>	
net.dhcp	= ?	0 = Off 1 = On	
eco.net.pow	= ? (default)	0 = Off 1 = On (Power for LAN in standby)	
h.keystone	= ? + -(default)	-350 ~ +350	
v.keystone	= ? + -(default)	-200 ~ +200	
warp.rotat	= ? + -(default)	-20 ~ +20	
warp.pinbrl	= ? + -(default)	-100 ~ +100	
warp.tlc.x	= ? + -(default)	x: -192 ~ +192	
warp.tlc.y	= ? + -(default)	y: -120 ~ +120	
warp.trc.x	= ? + -(default)	x: -192 ~ +192	
warp.trc.y	= ? + -(default)	y: -120 ~ +120	
warp.blc.x	= ? + -(default)	x: -192 ~ +192	
warp.blc.y	= ? + -(default)	y: -120 ~ +120	
warp.brc.x	= ? + -(default)	x: -192 ~ +192	
warp.brc.y	= ? + -(default)	y: -120 ~ +120	
warp.reset	(execute)		
blank.top	= ? + -(default)	0 ~ 360	
blank.btm	= ? + -(default)	0 ~ 360	
blank.left	= ? + -(default)	0 ~ 534	
blank.right	= ? + -(default)	0 ~ 534	
blank.reset	(execute)		
eb.stat	= ? (default)	0 = Off 1 = On	
eb.wht.top	= ? + -(default)	0, 200 ~ 500	Blend Width - Top
eb.wht.btm	= ? + -(default)	0, 200 ~ 500	Blend Width - Bottom
eb.wht.left	= ? + -(default)	0, 200 ~ 800	Blend Width - Left
eb.wht.right	= ? + -(default)	0, 200 ~ 800	Blend Width - Right
eb.blk.top	= ? + -(default)	0, 8, 16, 24, 32	Black Level Uplift - Top
eb.blk.btm	= ? + -(default)	0, 8, 16, 24, 32	Black Level Uplift - Bottom
eb.blk.left	= ? + -(default)	0, 4, 8, 12, 16, 20, 24, 28, 32	Black Level Uplift - Left

Serial Command Vivitek	Operation	Value	Remark 1
eb.blk.right	= ? + -(default)	0, 4, 8, 12, 16, 20, 24, 28, 32	Black Level Uplift - Right
eb.all	= ? + -(default)	0 ~ 32	
eb.red	= ? + -(default)	0 ~ 32	
eb.green	= ? + -(default)	0 ~ 32	
eb.blue	= ? + -(default)	0 ~ 32	
eb.reset	(execute)		
w2.recover			
eb.adl	= ? (default)	0 = Off 1 = On	
trig.1	= ? (default)	0 = Screen 1 = 16:9 2 = Theaterscope 3 = 4:3 4 = 4:3 Narrow 5 = RS-232 6 = RS232 On 7 = RS232 Off	6 & 7 will not be activated if Trig.1 = 5 is not set.
trig.2	= ? (default)	0 = Screen 1 = 16:9 2 = Theaterscope 3 = 4:3 4 = 4:3 Narrow 5 = RS-232 6 = RS232 On 7 = RS232 Off	6 & 7 will not be activated if Trig.2 = 5 is not set.
auto.src	= ? (default)	0 = Off 1 = On	
model	?	<string>	
ser.no	?	<string>	
sw.ver	?	<string>	Retrieve software version
sw.version	?	<string> ex: ack sw.version = MD03-GD04-8B08-011D (HostMCU,Scale,DDP, Ballast)	The 'soft.version' will reply multi-lines version string for different function module, ex: Host_MCU, Scale, RJ45, DDP, Ballast, Motor board etc.
sw2.version	?	<string> ex: ack sw2.version = LE03-RD02-3C3C (MotorBD,RJ45,W2)	
h.refresh	?	<number>	kHz
v.refresh	?	<number>	Hz
pixel.clock	?	<number>	MHz
signal	?	<string>	
lamp1.hours	?	<number>	
lamp2.hours	?	<number>	
proj.runtime	?	<number>	
act.source	?		
fact.reset	(execute)		

Serial Command Vivitek	Operation	Value	Remark 1
pattern	= ? (default)	0 = Off 1 = White 2 = Black 3 = Red 4 = Green 5 = Blue 6 = ANSI Checkboard 7 = Focus Grid 8 = V Burst 9 = H Burst 10 = Color Bar	OSD Test Patterns
status	?	0 = Standby 1 = Warm Up 2 = Imaging 3 = Cooling 4 = Error	
errcode	?		
adcontrast	= ? (default)	0 = Off 1 = On	
lang	= ? (default)	0 = English 1 = Chinese Simplified	

Caution: The projector returns string "NA" when the input command does not apply to current projector status or setup.

Simulated IR Remote Controller Commands

This control command simulates the IR remote controller and its control keys. It shares the same syntax of operation command. It begins with characters "ky", followed by control commands and settings separated by space blank [SP], and ended by carriage return pair "CR" and "ASCII hex 0D".Control command syntax:

ky[SP]<operation command>[CR]

Examples:

Power On ky power.on [CR]
Power Off ky power.off [CR]

List of simulated IR remote controller commands

Item	Function	Operation command	Description
1	Power On	power.on	Power On
2	Power Off	power.off	Power Off
3	Menu	menu	Display OSD menu
4	RETURN	return	Exit
5	Enter	enter	ENTER key
6	Up	up	Move cursor upward or change upward
7	Down	down	Move cursor downward or change downward
8	Left	left	Move cursor to the left or change to the left
9	Right	right	Move cursor to the right or change to the right

Control the Projector Through a Network

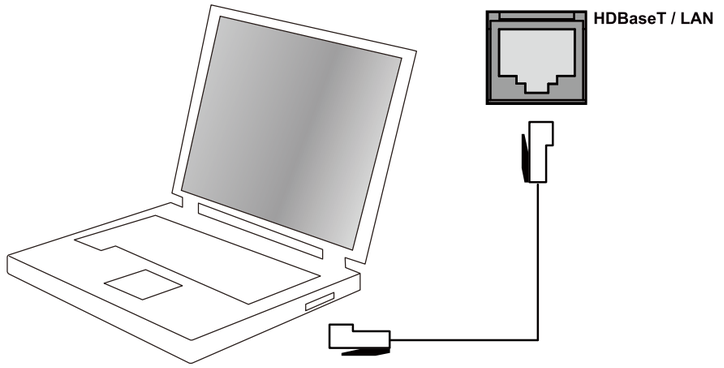
This projector supports the following remote control functions through a network connection.
- Control projector through web browser.
- Control projector with RS-232 control or simulated IR commands via TCP/IP communication protocol.
- Control projector with PJLink standard commands.

Cable Connection

You may connect the projector to a PC, an external integrated video or a control signal transmission box through LAN for remote control.

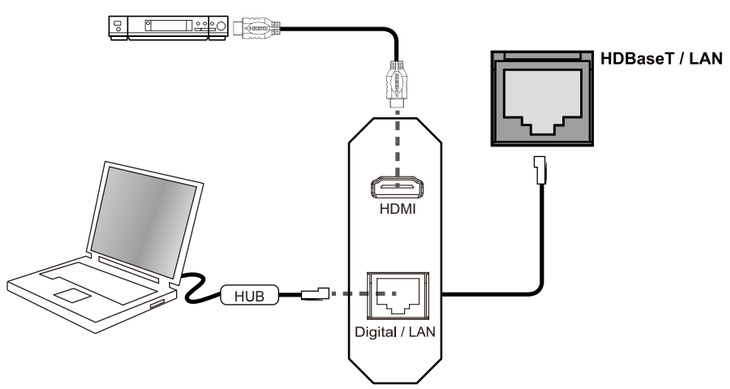
Connect the Projector to a PC

See figure below for connecting the projector to a PC in RJ-45 cable for control. For connection through LAN, connect the PC to a hub through to the projector's Digital/Lan port.



Connect with an External Integrated Video and Control Signal Transmission Box

You may connect the projector to an external integrated video and control signal transmission box with RJ-45 cable for concurrent video and networking control signal transmission. Please connect the PC to the input end of the transmission box with one RJ-45 cable and the output end of the transmission box to the Digital/ LAN input end of the projector with another RJ-45 cable.



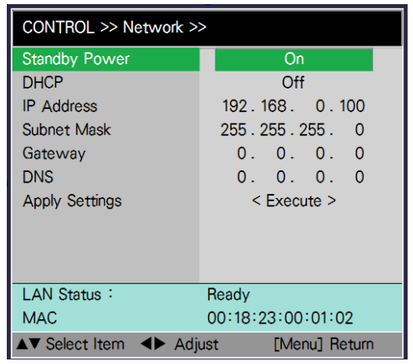
Set Up the Projector for Networking

In case the remote network control is not connected to LAN or DHCP or the LAN is not activated, connect as illustrated below:

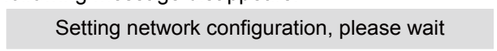
Caution:
In case the remote network control is not connected to LAN or DHCP or the LAN is not activated, set DHCP option to Off and then select Apply. The DHCP service assigns IP address and settings to devices automatically and keeps IP Address, Subnet, and Gateway options away from editing. If the DHCP service of the LAN is not activated, set up the network manually.

Use ▲▼ and the Enter button to select Network and network settings:

- **IP Address:** To specify an IP address, press the Enter button to show the IP address input window. Use the ◀▶ button to select the number in the address to be changed. Use the ▲▼ button to increase or decrease the number in the IP address.



- **Subnet**: Set the subnet. The input method is the same as the IP address.
- **Gateway**: Set the gateway. The input method is the same as the IP address.
- **DHCP**: Enable or disable the DHCP service. When DHCP is set to ON, the DHCP server of the domain will assign an IP address to the projector. The IP address will appear in the IP address window and you don't need to make any input. Otherwise, the domain does not or cannot assign any IP address, and 0. 0. 0. 0 is shown on the IP address window.
- **Apply:** Select this button and press Enter. It takes the projector several seconds to execute the change of the network setting till the following message disappears.



Please contact your network administrator in case the network remains disconnected.

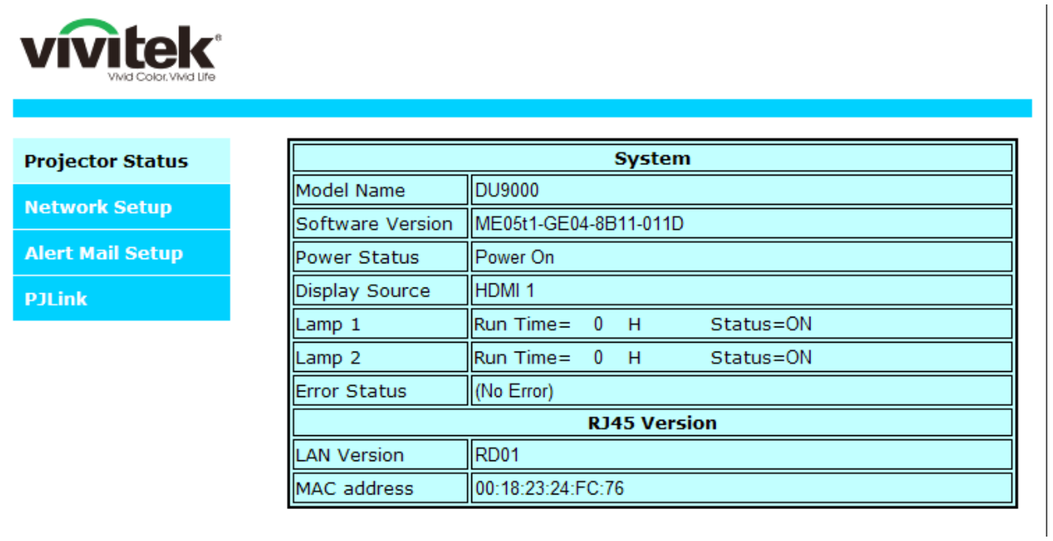
Control the Projector Through a Network

Control the Projector Through a Web Browser

Open the web browser of your control PC and type the projector's IP address. The projector's web server homepage will display with the following four options:

- **Projector Status:** Current projector settings.
- **Alert Mail Setup**: Settings for projector abnormality email reminders. In case of any abnormality occur; the project sends emails to preset users.
- **Crestron**: Crestron compatible web browser control pages
- **PJLink:** Set up password for PJLink connection in this page.

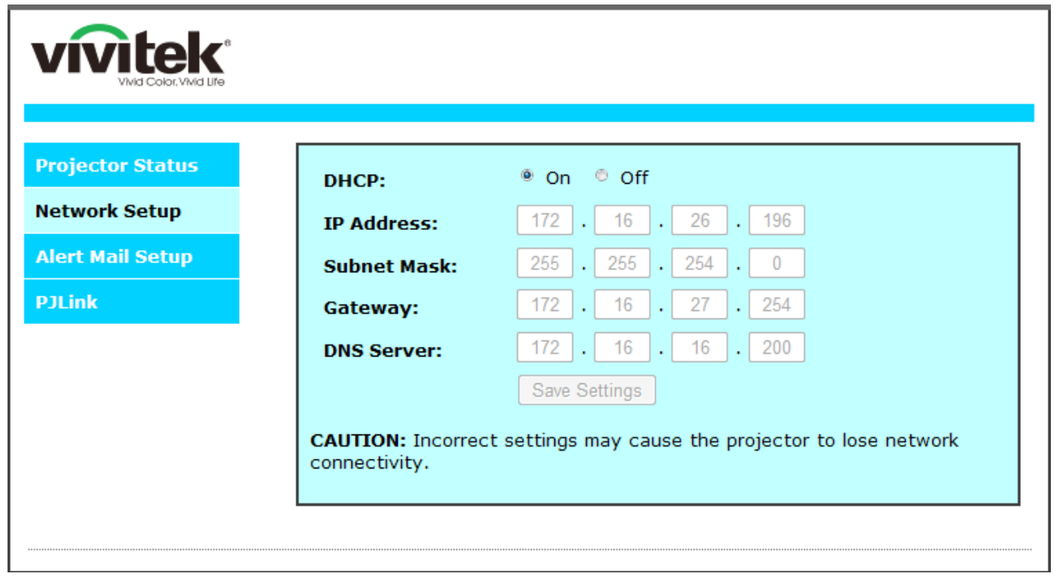
Projector Status
Illustration below goes with projector at IP address "192.168.0.100":



System	
Model Name	DU9000
Software Version	ME05t1-GE04-8B11-011D
Power Status	Power On
Display Source	HDMI 1
Lamp 1	Run Time= 0 H Status=ON
Lamp 2	Run Time= 0 H Status=ON
Error Status	(No Error)
RJ45 Version	
LAN Version	RD01
MAC address	00:18:23:24:FC:76

System
Model Name : Projector model name.
Software Version : The version of the software installed in the projector
Power Status : Current projector startup status
Display Source : Display the current source.
Lamp 1 Hours : Display the usage hours of Lamp 1
Lamp 2 Hours : Display the usage hours of Lamp 2
Error Status : Indicate projector diagnosis message

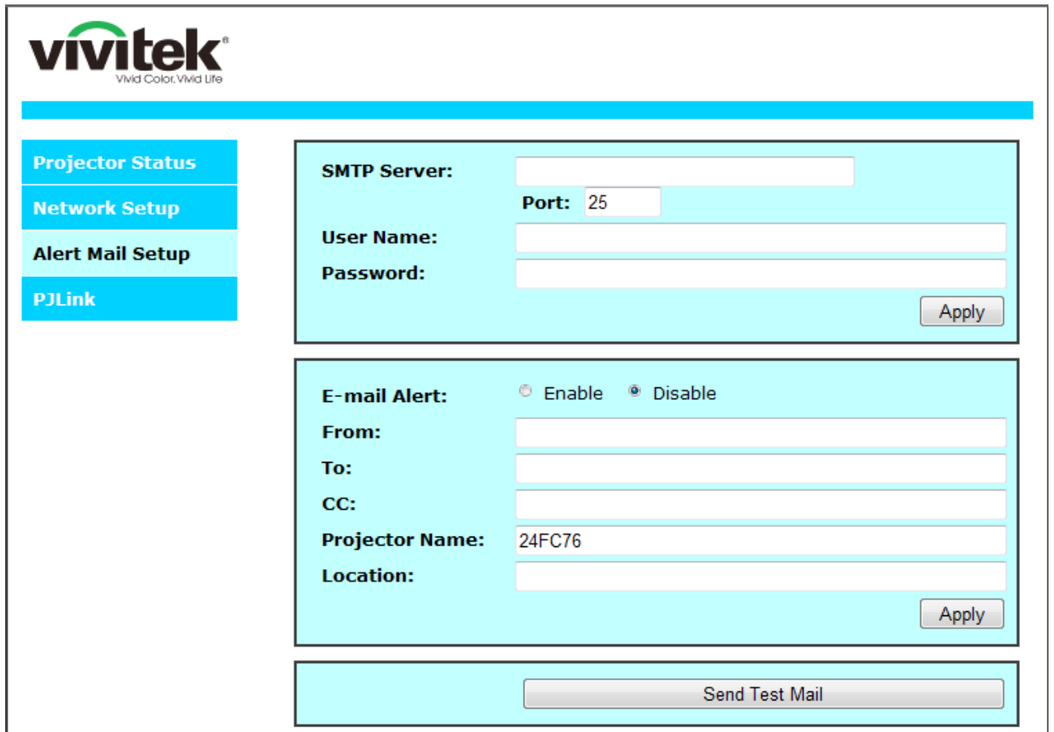
RJ-45 Version
LAN Version : Network control software version number
MAC address : Projector MAC address setup


vivitek
Vivid Color. Vivid Life
Projector Status
Network Setup
Alert Mail Setup
PJLink
DHCP: On Off
IP Address: 172 . 16 . 26 . 196
Subnet Mask: 255 . 255 . 254 . 0
Gateway: 172 . 16 . 27 . 254
DNS Server: 172 . 16 . 16 . 200
Save Settings
CAUTION: Incorrect settings may cause the projector to lose network connectivity.

Network Setup

DHCP	:	on : Enable DHCP off : Disable DHCP
IP address	:	Projector IP address setup
Subnet mask	:	Projector subnet address setup
gateway	:	Projector gateway setup
DNS server	:	Projector DNS server setup

Alert Mail Setup



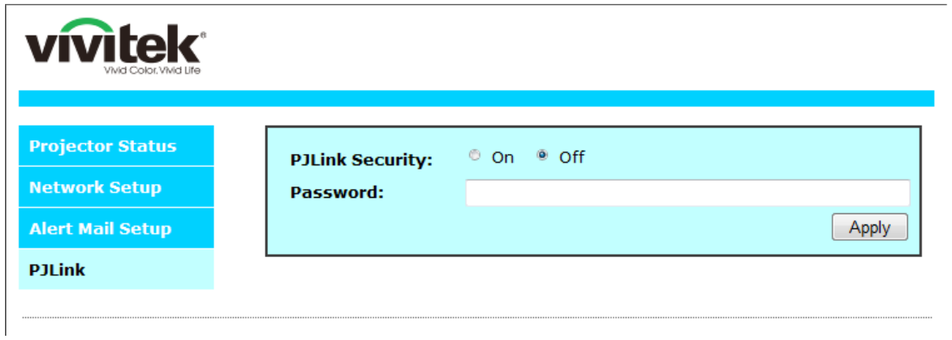
This projector can send emails with projector abnormality messages to preset users. Set up the projector before enabling this function:

SMPT Server	: Set up SMTP server name as the projector sends email via a SMTP server.
Port	: Set up transmission port
User Name	: Input target user name for the projector to send the reminder email to, through a SMTP server.
Password	: Input user password.
E-mail Alert	: Enable or Disable reminder email.
From	: Set up email address of the email sender.
To	: Set up email address of the email recipient.
CC	: Set up email address of the email CC recipient.
Projector Name	: Set up projector name or ID.
Location	: Set up projector installation location.
Apply	: Confirm your settings. Press this button to save changes you have made.
Send Test Mail	: Send test email. The reminder email is sent only in the event of a projector error.

Press this button to validate email settings after setup is completed.

Control Projector with the PJLink Protocol

PJLink is a standard designed by Japan Business Machine and Information System Industries Association (JBMA) for controlling projectors with genuine commands. A PJLink standard compliant projector from any supplier can be controlled with these genuine commands. This product supports PJLink control commands. Please set up password for PJLink connection in this page.



PJLink Security : Select On to enable PJLink password or Off to disable it.
Password : Set up password at length up to 32 characters.

For details on PJLink standard commands and connection methods, please visit the PJLink official web site.

Control Projector with TCP/IP Communication Protocol

This projector supports TCP/IP communication protocol. It enables you to send RS-232 operation commands or simulated IR commands to control projectors which connected with RJ45 cable via terminal connection application software, e.g. Tera Term. Please set up IP address and port number with the terminal connection application software before controlling your projector with TCP/IP communication protocol:

IP Address : IP address of projector
Port : Please set transmission port number to 7000

See the section on serial interface RS-232 control commands for details on RS-232 operation commands or simulated IR commands.

Specificatons and Support

Specifications

Model Name	DU9000	
Technology	DLP	
Resolution	WUXGA(1920x1200)	
Max. Resolution	WUXGA(1920x1200)@60Hz	
Contrast	1250:1 / with DB 5000:1	
Lamp Life and Tye	1500/2000 hours（Standard/Eco mode），465Wx2	
Projection Lens	1.85-2.4:1 (Standard)	1.56-1.86:1
	0.8-1.03:1	2.4-4.0:1
Projection distance	2.5-9.0m (Standard lens)	
F#	F=2.17-2.46, f=39-50.7mm(Standard Lens)	
Zoom Ratio（Standard Lens)	1.3X	
Asppct Ratio	16:10 Normal 4:3 and 16:9 Compairable	
Lens Shift	Vertical: 12.5%~15%,Horizontal: 37.5%~50%	
Keystone correction	Vertical:：+/-30° , Horizontal: +/-20°	
Sync	Vertical: 48-120Hz Horizontal: 15-108kHz	
Edge Blending / Warping	Yes	
Video Compatibility	SDTV(480i/576i)， EDTV (480p/576p)， HDTV (720p，1080i/p)	
I/O Ports	HDMI v1.4 x 2、3D Sync Out x 1、 HDBaseT (Lan Control) x 1、VGA x 1、Component (YPbPr) x 2, RS-232C、Screen Trigger x 2、 Wire Remote x 1、USB x 1	
Projction	Table top and ceiiing (Front and rear)	
Size (W x D x W)	630 x 500 x 250mm	
Weight (Not included Lens）	30kg	
Noise Level	44dB/47dB（Eco Mode / Standard Mode）	
Power	AC110-240V，50/60Hz	
Standby Power	Standby Power：< 2W（No RJ-45 active）	
Power consumption	1200 Watt	
Standard Accessory	Power cord x3, HDMI x1, Remote Contorl, lens cap ,CD	

Vivitek Support

If you cannot find solutions from this user guideline, please contact us using the contact information below:

North America
Vivitek Service Center
15700 Don Julian Road, Suite B
City of Industry, CA. 91745
U.S.A
Tel: 855-885-2378 (Toll-Free)
Email: T.services1@vivitekcorp.com
URL: www.vivitekusa.com

Europe and Africa
Vivitek Service & Support
Zandsteen 15
2132 MZ Hoofddorp
The Netherlands
Tel: +31 20 655 0960
Email: support@vivitek.eu
URL: www.vivitek.eu

China
Vivitek Service Center
Cimic Plaza, No. 1090 Shiji Boulevard, Pudong Shanghai,201209
China
Tel: 400-888-3526 (Toll-Free)
Tel: 021-58360088-142 (Direct)
Email: service@vivitek.com.cn
URL: www.vivitek.com.cn

Asia and Taiwan
VIVITEK after-sales service
Vivitek Corporation, Co., Ltd.
4F, No.186, Ruey Kuang Road, Neihu District
Taipei, Taiwan 11491
TEL: 886-2-28797-2088, ext. 6899
E-mail: gary.hsuan@vivitek.com.tw
URL: www.vivitek.com.tw